

# SD010 SD015

## Liquid Cooled Diesel Engine Generator Sets

### Continuous Standby Power Rating

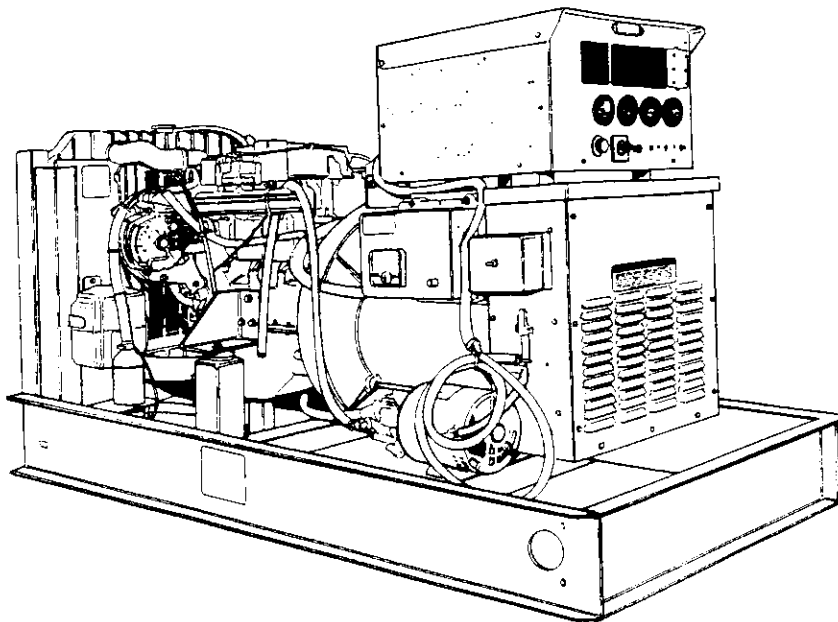
10KW 60 Hz / 10KVA 50 Hz

15KW 60 Hz / 15KVA 50 Hz

### Prime Power Rating

8.2KW 60 Hz / 8.2KVA 50 Hz

11.8KW 60 Hz / 11.8KVA 50 Hz



Power Matched

**GENERAC 2.4DN ENGINE**

Naturally Aspirated

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA :**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.
- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
- **LONGER ENGINE LIFE.** GENERAC heavy-duty diesels provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class F
STATOR INSULATION .....	Class F
TOTAL HARMONIC DISTORTION .....	<5%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

<input type="checkbox"/> DIRECT .....	DC excitation system ✓ Low-velocity brushes and slip rings ✓
<input type="checkbox"/> BRUSHLESS .....	Magnetically coupled DC current ✓ Eight-pole exciter w/ battery-driven field boost ✓ Mounted outboard of main bearing ✓
REGULATION .....	Solid-state ✓ ±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated twice with class "F" varnish.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	2.4DN
CYLINDERS .....	4 in-line
DISPLACEMENT .....	2.4 Liter (146 cu. in.)
BORE .....	92 mm (3.6 in.)
STROKE .....	89 mm (3.5 in.)
COMPRESSION RATIO .....	21.7:1
INTAKE AIR .....	Naturally Aspirated
NUMBER OF MAIN BEARINGS .....	5
CONNECTING RODS .....	4-Drop forged steel
CYLINDER HEAD .....	Cast iron w/ overhead valve
PISTONS .....	4-Aluminum alloy
CRANKSHAFT .....	Forged Steel

### VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL .....	Silicon Chrome
EXHAUST VALVE MATERIAL .....	Stellite
HARDENED VALVE SEATS .....	Replaceable

### ENGINE GOVERNOR

<input type="checkbox"/> MECHANICAL (Gear Driven) .....	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ...	5.0%
STEADY STATE REGULATION .....	±0.5%
<input type="checkbox"/> ELECTRONIC .....	Optional
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ...	0.5%
STEADY STATE REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full flow, cartridge
CRANKCASE CAPACITY .....	6 Liters (6.3 qts.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP .....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN .....	387 mm (15.25 in.)
COOLANT HEATER .....	120V, 1000 W

### FUEL SYSTEM

FUEL .....	#2D Fuel (Min Cetane #40) (Fuel should conform to ASTM Spec.)
FUEL FILTER .....	10 Micron
FUEL INJECTION PUMP .....	Bosch (VE)
FUEL PUMP .....	Engine Driven Gear Type
INJECTORS .....	Pintel Type, 2100 PSI
ENGINE TYPE .....	Pre-combustion, swirl chamber
FUEL LINE (Supply) .....	6.35 mm (0.25 in.)
FUEL RETURN LINE .....	3.17 mm (0.125 in.)

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	42 Amps at 12 V
STARTER MOTOR .....	12 V
RECOMMENDED BATTERY .....	(1) - 12 V, 90 A.H., 27F
GROUND POLARITY .....	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## OPERATING DATA

		STANDBY				PRIME			
		SD010		SD015		SD010		SD015	
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b>									
120/240V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	10 KW		15 KW		8.2 KW		11.8 KW	
120/208V, 3-phase, 0.8 pf		10 KW		15 KW		8.2 KW		11.8 KW	
120/240V, 3-phase, 0.8 pf		10 KW		15 KW		8.2 KW		11.8 KW	
277/480V, 3-phase, 0.8 pf		10 KW		15 KW		8.2 KW		11.8 KW	
600V, 3-phase, 0.8 pf		10 KW		15 KW		8.2 KW		11.8 KW	
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b>									
110/220V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	10 KVA		15 KVA		6.6 KVA		9.4 KVA	
115/200V, 3-phase, 0.8 pf		10 KVA		15 KVA		8.2 KVA		11.8 KVA	
100/200V, 3-phase, 0.8 pf		10 KVA		15 KVA		8.2 KVA		11.8 KVA	
231/400V, 3-phase, 0.8 pf		10 KVA		15 KVA		8.2 KVA		11.8 KVA	
480V, 3-phase, 0.8 pf		10 KVA		15 KVA		8.2 KVA		11.8 KVA	
<b>MOTOR STARTING</b>									
Maximum at 35% instantaneous voltage dip Stand—50/60 Hz		<b>231/240V</b> 17/21 KVA	<b>400/480V</b> 25/30 KVA	<b>231/240V</b> 24.5/30 KVA	<b>400/480V</b> 38.5/47 KVA	<b>231/240V</b> 17/21 KVA	<b>400/480V</b> 25/30 KVA	<b>231/240V</b> 24.5/30 KVA	<b>400/480V</b> 38.5/47 KVA
<b>FUEL</b>									
Fuel consumption—60 Hz	Load	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>
	gal./hr.	0.42	0.60	0.90	1.1	0.5	0.90	1.2	1.5
	liters/hr.	1.6	2.3	3.4	4.2	1.9	3.4	4.5	5.7
Fuel consumption—50 Hz	gal./hr.	0.34	0.50	0.72	0.84	0.40	0.70	0.90	1.2
	liters/hr.	1.3	1.9	2.7	3.2	1.5	2.6	3.4	4.5
Fuel pump lift		0.9 meters (36 in.)		0.9 meters (36 in.)		0.9 meters (36 in.)		0.9 meters (36 in.)	
<b>COOLING</b>									
Coolant capacity	System	8.5 lit. (2.0 US gal.)		8.5 lit. (2.0 US gal.)		8.5 lit. (2.0 US gal.)		8.5 lit. (2.0 US gal.)	
	Engine	3.4 lit. (0.9 US gal.)		3.4 lit. (0.9 US gal.)		3.4 lit. (0.9 US gal.)		3.4 lit. (0.9 US gal.)	
	Radiator	5.1 lit. (1.1 US gal.)		5.1 lit. (1.1 US gal.)		5.1 lit. (1.1 US gal.)		5.1 lit. (1.1 US gal.)	
Coolant flow/min.	60 Hz	60 lit. (14 US gal.)		60 lit. (14 US gal.)		60 lit. (14 US gal.)		60 lit. (14 US gal.)	
	50 Hz	50 lit. (12 US gal.)		50 lit. (12 US gal.)		50 lit. (12 US gal.)		50 lit. (12 US gal.)	
Heat rejection to coolant		45,500 BTU/hr.		52,000 BTU/hr.		35,000 BTU/hr.		45,500 BTU/hr.	
Inlet air	60 Hz	38 m³/min. (1335 cfm)		38 m³/min. (1335 cfm)		38 m³/min. (1335 cfm)		38 m³/min. (1335 cfm)	
	50 Hz	31 m³/min. (1112 cfm)		31 m³/min. (1112 cfm)		31 m³/min. (1112 cfm)		31 m³/min. (1112 cfm)	
Max. inlet air temperature		110°F		110°F		110°F		110°F	
<b>COMBUSTION AIR REQUIREMENTS</b>									
Flow at rated power	60 Hz	2.0 m³/min. (72 cfm)		2.0 m³/min. (72 cfm)		2.0 m³/min. (72 cfm)		2.0 m³/min. (72 cfm)	
	50 Hz	1.7 m³/min. (60 cfm)		1.7 m³/min. (60 cfm)		1.7 m³/min. (60 cfm)		1.7 m³/min. (60 cfm)	
<b>EXHAUST</b>									
Exhaust flow at rated output	60 Hz	3.8 m³/min. (134 cfm)		4.1 m³/min. (146 cfm)		3.8 m³/min. (134 cfm)		3.8 m³/min. (134 cfm)	
	50 Hz	3.2 m³/min. (113 cfm)		3.4 m³/min. (123 cfm)		3.2 m³/min. (113 cfm)		3.2 m³/min. (113 cfm)	
Maximum recommended back pressure		5.0 Kpa (1.5" Hg)		5.0 Kpa (1.5" Hg)		5.0 Kpa (1.5" Hg)		5.0 Kpa (1.5" Hg)	
Exhaust temperature at rated output		290°C (550°F)		338°C (640°F)		271°C (520°F)		290°C (550°F)	
Exhaust outlet size		2" N.P.T. (female)		2" N.P.T. (female)		2" N.P.T. (female)		2" N.P.T. (female)	
<b>ENGINE</b>									
Rated RPM	60 Hz	1800		1800		1800		1800	
	50 Hz	1500		1500		1500		1500	
HP at rated KW	60 Hz	16		24		13		19	
	50 Hz	13		19		11		15	
Piston speed	60 Hz	320m/min.(1050ft./min.)		320m/min.(1050ft./min.)		320m/min.(1050ft./min.)		320m/min.(1050ft./min.)	
	50 Hz	267m/min.(875ft./min.)		267m/min.(875ft./min.)		267m/min.(875ft./min.)		267m/min.(875ft./min.)	
BMEP	60 Hz	48		71		45		58	
	50 Hz	47		68		41		55	
<b>DERATION FACTORS</b>									
Temperature									
	5% for every 10°C above	43°C		43°C		43°C		43°C	
	2.77% for every 10°F above	110°F		110°F		110°F		110°F	
Altitude									
	1.1% for every 100 m above	3000 m		2300 m		3000 m		2300m	
	3.5% for every 1000 ft. above	9000 ft.		7000 ft.		9000 ft.		7000 ft.	

# STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

## OPTIONS

### ■ OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter
- 208/240V coolant Heater

### ■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- Single Wall Base Tank \_\_\_\_\_
- Double Wall Base Tank w/alarm \_\_\_\_\_
- Base Tank Low Fuel Alarm
- Primary Fuel Filter
- Primary Fuel Filter with Heater

### ■ OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

### ■ OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 90 A.H., 27F
- 2A Battery Charger
- 10A Dual Rate Battery Charger
- Battery Heater

### ■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Strip Heater
- Alternator Tropicalization
- Voltage Changeover (Board/Switch)
- Main Line Circuit Breaker \_\_\_\_\_

### ■ CONTROL CONSOLE OPTIONS

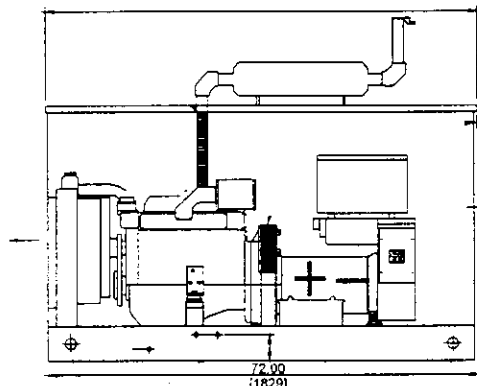
- See control console specification sheet

### ■ ADDITIONAL OPTIONAL EQUIPMENT

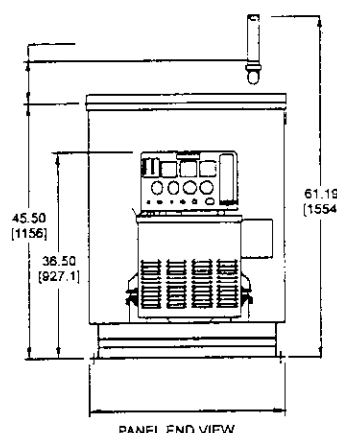
- Automatic Transfer Switch
- Weather Protective Enclosure (Locking Type)
- Sound Attenuating Outdoor Enclosure
- Isochronous Governor
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 18 Light Remote Annunciator
- Road Ready Trailer
- Unit Vibration Isolators (Pad/Spring)
- Oil Make-Up System
- Oil Heater
- 5 Year Warranty (Basic/Extended)
- Export Boxing

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



LEFT SIDE VIEW



PANEL END VIEW

WEIGHT: 1100 lbs.

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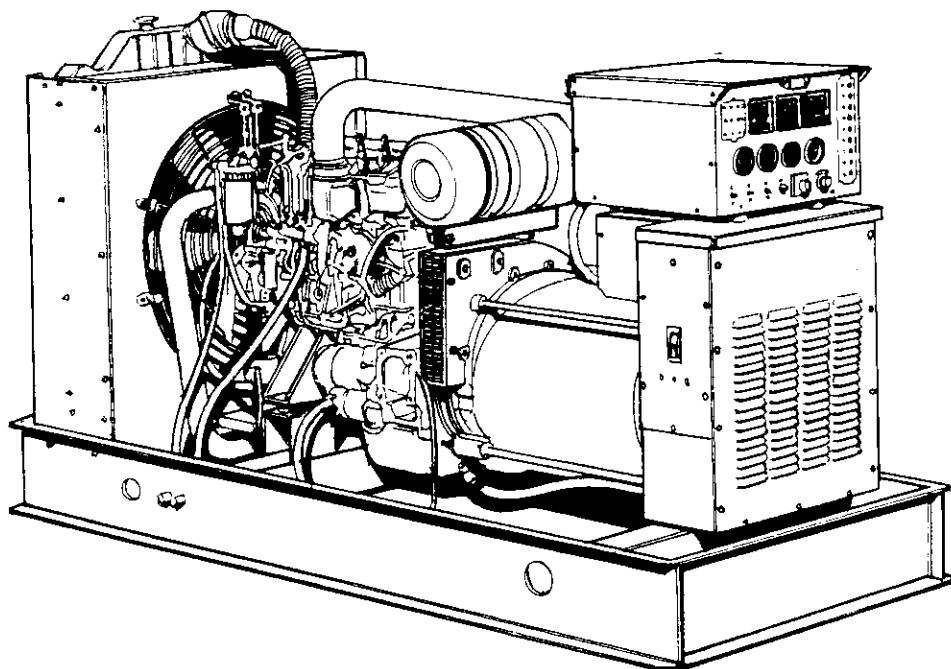
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# SD040

## Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating  
40KW 60 Hz / 40KVA 50 Hz

Prime Power Rating  
33KW 60 Hz / 33KVA 50 Hz



Power Matched  
**GENERAC 4.0DN ENGINE**  
Naturally Aspirated

### FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
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  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM
- MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
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# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

- ☐ BRUSHLESS .....
- Magnetically coupled DC current ✓
  - Eight-pole exciter w/ battery-driven field boost ✓
  - Mounted outboard of main bearing ✓
- ☐ PERMANENT MAGNET EXCITER .....
- Eighteen pole exciter ✓
  - Magnetically coupled DC current ✓
  - Mounted outboard of main bearing ✓
- REGULATION .....
- Solid-state ✓
  - ±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated twice with class "H" varnish.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
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- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN2671). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN2671).

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	4.0DN
CYLINDERS .....	4
DISPLACEMENT .....	4.0 Liter (244 cu. in.)
BORE .....	104 mm (4.09 in.)
STROKE .....	118 mm (4.64 in.)
COMPRESSION RATIO .....	17.9:1
INTAKE AIR .....	Naturally Aspirated
NUMBER OF MAIN BEARINGS .....	5
CONNECTING RODS .....	4-Drop Forged Steel
CYLINDER HEAD .....	Cast Iron
PISTONS .....	4-Aluminum Alloy
CRANKSHAFT .....	Die Forged, Induction Hardened Steel

### VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL .....	Heat Resistant Steel
EXHAUST VALVE MATERIAL .....	Special Heat Resistant Steel
HARDENED VALVE SEATS .....	Replaceable

### ENGINE GOVERNOR

- ☐ MECHANICAL (Gear Driven) .....
- Standard
  - FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 5.0%
  - STEADY STATE REGULATION .....
  - ±0.33%
- ☐ ELECTRONIC .....
- Optional
  - FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 0.5%
  - STEADY STATE REGULATION .....
  - ±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full flow, Cartridge
CRANKCASE CAPACITY .....	10 Liters (10.5 qts.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP .....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN .....	530 mm (20.9 in.)
COOLANT HEATER .....	120V, 1800 W

### FUEL SYSTEM

FUEL .....	#2D Fuel (Min Cetane #40)
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	5 Micron
FUEL INJECTION PUMP .....	Bosch Type, Barrel & Plunger Type
FUEL PUMP .....	Mechanical
INJECTORS .....	Multi-Hole, Nozzle Type
ENGINE TYPE .....	Direct Injection
FUEL LINE (Supply) .....	6.35 mm (0.25 in.)
FUEL RETURN LINE .....	6.35 mm (0.25 in.)

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	20 Amps at 24 V
STARTER MOTOR .....	24 V
RECOMMENDED BATTERY .....	(2)—12 Volt, 90 A.H., 27F
GROUND POLARITY .....	Negative

## OPERATING DATA

		STANDBY		PRIME	
		SD040		SD040	
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b>					
120/240V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	40 KW		33 KW	
120/208V, 3-phase, 0.8 pf		40 KW		33 KW	
120/240V, 3-phase, 0.8 pf		40 KW		33 KW	
277/480V, 3-phase, 0.8 pf		40 KW		33 KW	
600V, 3-phase, 0.8 pf		40 KW		33 KW	
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b>					
110/220V, 1-phase, 1.0 pf	NOTE: Consult your Generac dealer for additional voltages.	32 KVA		26.4 KVA	
115/200V, 3-phase, 0.8 pf		40 KVA		33 KVA	
100/200V, 3-phase, 0.8 pf		40 KVA		33 KVA	
231/400V, 3-phase, 0.8 pf		40 KVA		33 KVA	
480V, 3-phase, 0.8 pf		40 KVA		33 KVA	
<b>MOTOR STARTING</b> Maximum at 35% instantaneous voltage dip with standard alternator - 50/60Hz with optional alternator - 50/60Hz		<b>231/240V 400/480V</b> 66/80 KVA 75/91 KVA 234/281KVA 275/331 KVA		<b>231/240V 400/480V</b> 66/80 KVA 75/91 KVA 234/281 KVA 275/331 KVA	
<b>FUEL</b>					
Fuel consumption—60 Hz	Load	<b>25% 50% 75% 100%</b>		<b>25% 50% 75% 100%</b>	
	gal./hr.	1.06 1.92 2.79 3.66		0.95 1.73 2.50 3.22	
	liters/hr.	4.03 7.30 10.6 13.1		3.61 6.57 9.50 12.2	
Fuel consumption—50 Hz	gal./hr.	0.88 1.58 2.27 2.96		0.80 1.40 2.01 2.62	
	liters/hr.	3.34 6.00 8.63 11.3		3.04 5.32 7.64 9.96	
Fuel pump lift		40"		40"	
<b>COOLING</b>					
Coolant capacity	System	17 lit. (4.5 US gal.)		17 lit. (4.5 US gal.)	
	Engine	10.5 lit. (2.75 US gal.)		10.5 lit. (2.75 US gal.)	
	Radiator	6.5 lit. (1.75 US gal.)		6.5 lit. (1.75 US gal.)	
Coolant flow/min.	60 Hz	80 lit. (19 US gal.)		80 lit. (19 US gal.)	
	50 Hz	66 lit. (16 US gal.)		66 lit. (16 US gal.)	
Heat rejection to coolant		150,000 BTU/hr.		132,000 BTU/hr.	
Inlet air	60 Hz	128 m³/min. (4500 cfm)		128 m³/min. (4500 cfm)	
	50 Hz	107 m³/min. (3800 cfm)		107 m³/min. (3800 cfm)	
Max. inlet air temperature		110°F		110°F	
<b>COMBUSTION AIR REQUIREMENTS</b>					
Flow at rated power	60 Hz	3.5 m³/min. (125 cfm)		3.5 m³/min. (125 cfm)	
	50 Hz	3.0 m³/min. (105 cfm)		3.0 m³/min. (105 cfm)	
<b>EXHAUST</b>					
Exhaust flow at rated output	60 Hz	9.3 m³/min. (330 cfm)		8.5 m³/min. (300 cfm)	
	50 Hz	7.6 m³/min. (270 cfm)		7.1 m³/min. (250 cfm)	
Maximum recommended back pressure		5.0 Kpa (1.5" Hg)		5 Kpa (1.5" Hg)	
Exhaust temperature at rated output		482 °C (900 °F)		458 °C (847 °F)	
Exhaust outlet size		2.5" N.P.T. (female)		2.5" N.P.T. (female)	
<b>ENGINE</b>					
Rated RPM	60 Hz	1800		1800	
	50 Hz	1500		1500	
HP at rated KW	60 Hz	64		53	
	50 Hz	51		42	
Piston speed	60 Hz	424m/min.(1386ft./min.)		424m/min.(1386ft./min.)	
	50 Hz	354m/min.(1160ft./min.)		354m/min.(1160ft./min.)	
BMEP	60 Hz	115		95	
	50 Hz	110		91	
<b>DERATION FACTORS</b>					
Temperature					
5% for every 10°C above		43°C		43°C	
2.77% for every 10°F above		110°F		110°F	
Altitude					
1.1% for every 100 m above		1525 m		1525 m	
3.5% for every 1000 ft. above		5000 ft.		5000 ft.	

# STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter

- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

## OPTIONS

### ■ OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter
- Coolant Heater 120V

### ■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- Single Wall Base Tank \_\_\_\_\_
- Double Wall Base Tank w alarm \_\_\_\_\_
- Base Tank Low Fuel Alarm
- Primary Fuel Filter
- Primary Fuel Filter with Heater

### ■ OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

### ■ OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 135 A.H., 4DL
- 2A Battery Charger
- 10A Dual Rate Battery Charger
- Battery Heater

### ■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing \_\_\_\_\_
- Alternator Strip Heater
- Alternator Tropicalization
- Voltage Changeover (Board/Switch)
- Main Line Circuit Breaker \_\_\_\_\_

### ■ CONTROL CONSOLE OPTIONS

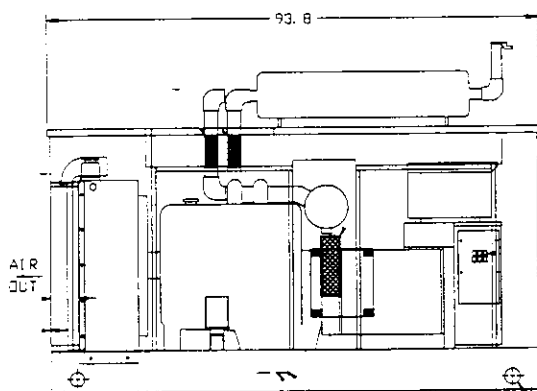
- See control console specification sheet

### ■ ADDITIONAL OPTIONAL EQUIPMENT

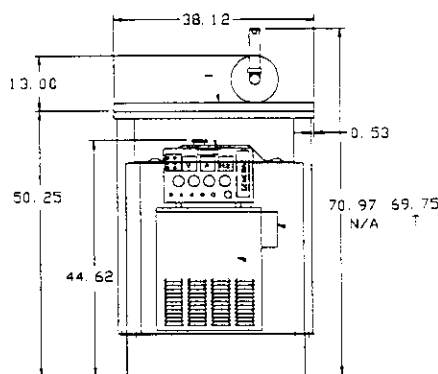
- Automatic Transfer Switch
- Weather Protective Enclosure (Locking Type)
- Sound Attenuating Outdoor Enclosure
- Isochronous Governor
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 18 Light Remote Annunciator
- Road Ready Trailer
- Unit Vibration Isolators (Pad/Spring)
- Oil Make-Up System
- Oil Heater
- 5 Year Warranty (Basic/Extended)
- Export Boxing

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



LEFT SIDE VIEW



PANEL END VIEW

WEIGHT: 2000 lbs.

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# SD050 SD060

## Liquid Cooled Diesel Engine Generator Sets

### Continuous Standby Power Rating

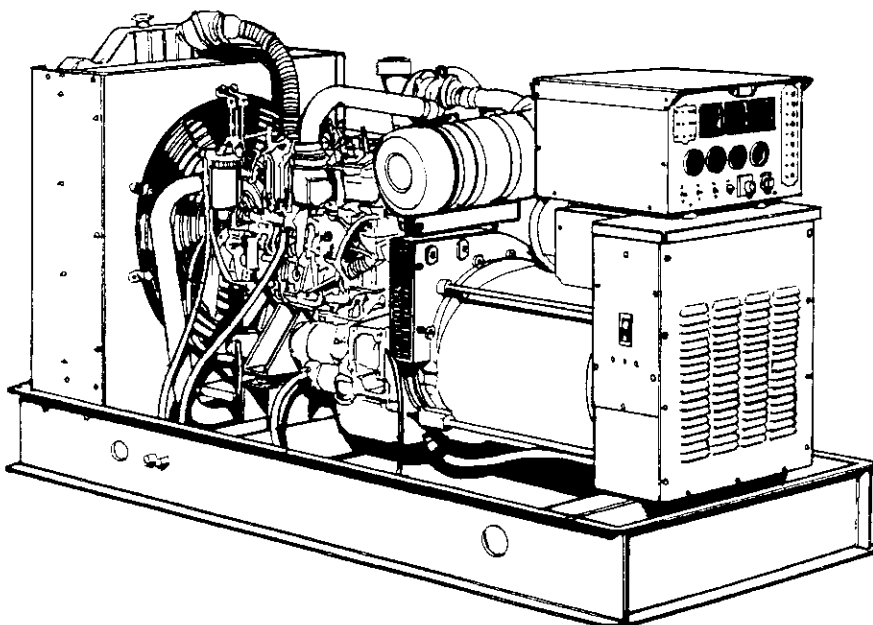
50KW 60 Hz / 50KVA 50 Hz

60KW 60 Hz / 60KVA 50 Hz

### Prime Power Rating

41KW 60 Hz / 41KVA 50 Hz

50KW 60 Hz / 50KVA 50 Hz



Power Matched

**GENERAC 4.0DT ENGINE**

TurboCharged

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
  - **TEST CRITERIA:**
    - ✓ PROTOTYPE TESTED
    - ✓ SYSTEM TORSIONAL TESTED
    - ✓ ELECTRO-MAGNETIC INTERFERENCE
    - ✓ NEMA MG1-22 EVALUATION
    - ✓ MOTOR STARTING ABILITY
    - ✓ SHORT CIRCUIT TESTING
  - **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM
- MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
  - **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.
  - **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
  - **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
  - **GENERAC TRANSFER SWITCHES AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE:** Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.

### EXCITATION SYSTEM

- ☐ BRUSHLESS .....
- Magnetically coupled DC current ✓
  - Eight-pole exciter w/ battery-driven field boost ✓
  - Mounted outboard of main bearing ✓
- ☐ PERMANENT MAGNET EXCITER .....
- Eighteen pole exciter ✓
  - Magnetically coupled DC current ✓
  - Mounted outboard of main bearing ✓
- REGULATION .....
- Solid-state ✓
  - ±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated twice with class "H" varnish.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	4.0DT
CYLINDERS .....	4
DISPLACEMENT .....	4.0 Liter (244 cu. in.)
BORE .....	104 mm (4.09 in.)
STROKE .....	118 mm (4.65 in.)
COMPRESSION RATIO .....	19.9:1
INTAKE AIR .....	Turbo Charged
NUMBER OF MAIN BEARINGS .....	5
CONNECTING RODS .....	4-Forged Steel
CYLINDER HEAD .....	Cast Iron
PISTONS .....	4-Aluminum Alloy
CRANKSHAFT .....	Die Forged, Induction Hardened Steel

### VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL .....	Heat Resistant Steel
EXHAUST VALVE MATERIAL .....	Special Heat Resistant Steel
HARDENED VALVE SEATS .....	Replaceable

### ENGINE GOVERNOR

- ☐ MECHANICAL (Gear Driven) .....
- Standard
  - FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 5.0%
  - STEADY STATE REGULATION .....
  - ±0.33%
- ☐ ELECTRONIC .....
- Optional
  - FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 0.5%
  - STEADY STATE REGULATION .....
  - ±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full flow, cartridge
CRANKCASE CAPACITY .....	10 Liters (10.5 qts.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP .....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN .....	530 mm (20.9 in.)
COOLANT HEATER .....	120V, 1800 W

### FUEL SYSTEM

FUEL .....	#2D Fuel (Min Cetane #40)
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	5 Micron
FUEL INJECTION PUMP .....	Bosch, Barrel & Plunger Type
FUEL PUMP .....	Mechanical
INJECTORS .....	Multi-hole, nozzle type
ENGINE TYPE .....	Direct injection
FUEL LINE (Supply) .....	6.35 mm (0.25 in.)
FUEL RETURN LINE .....	6.35 mm (0.25 in.)

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	20 Amps at 24 V
STARTER MOTOR .....	24 V
RECOMMENDED BATTERY .....	(2)—12 V, 90 A.H., 27F
GROUND POLARITY .....	Negative

# OPERATING DATA

		STANDBY				PRIME			
		SD050		SD060		SD050		SD060	
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b> 120/240V, 1-phase, 1.0 pf 120/208V, 3-phase, 0.8 pf 120/240V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf 600V, 3-phase, 0.8 pf		50 KW 50 KW 50 KW 50 KW 50 KW		60 KW 60 KW 60 KW 60 KW 60 KW		41 KW 41 KW 41 KW 41 KW 41 KW		50 KW 50 KW 50 KW 50 KW 50 KW	
NOTE: Consult your Generac dealer for additional voltages.									
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b> 110/220V, 1-phase, 1.0 pf 115/200V, 3-phase, 0.8 pf 100/200V, 3-phase, 0.8 pf 231/400V, 3-phase, 0.8 pf 480V, 3-phase, 0.8 pf		40 KVA 50 KVA 50 KVA 50 KVA 50 KVA		48 KVA 60 KVA 60 KVA 60 KVA 60 KVA		32.8 KVA 41 KVA 41 KVA 41 KVA 41 KVA		40 KVA 50 KVA 50 KVA 50 KVA 50 KVA	
NOTE: Consult your Generac dealer for additional voltages.									
<b>MOTOR STARTING</b> Maximum at 35% instantaneous voltage dip with standard alternator - 50/60Hz with optional alternator - 50/60Hz		<b>231/240 400/480V</b> 83/100KVA 94/113KVA 234/281 KVA 276/331 KVA		<b>231/240V 400/480V</b> 100/120 KVA 118/141 KVA 234/281 KVA 276/331 KVA		<b>231/240V 400/480V</b> 83/100KVA 94/113KVA 234/281 KVA 276/331 KVA		<b>231/240V 400/480V</b> 100/120 KVA 118/141 KVA 234/281 KVA 276/331 KVA	
<b>FUEL</b> Fuel consumption—60 Hz Load gal./hr. liters/hr. Fuel consumption—50 Hz gal./hr. liters/hr. Fuel pump lift		25% 50% 75% 100% 1.27 2.36 3.44 4.52 4.83 8.97 13.1 17.2 1.06 1.92 2.79 3.66 4.03 7.30 10.6 13.9 40"		25% 50% 75% 100% 1.49 2.79 4.09 5.39 5.66 10.6 15.5 20.5 1.23 2.27 3.31 4.35 4.67 8.63 12.6 16.5 40"		25% 50% 75% 100% 1.06 1.92 2.79 3.66 4.03 7.30 10.6 13.9 0.88 1.58 2.27 2.96 3.34 6.00 8.36 11.2 40"		25% 50% 75% 100% 1.27 2.36 3.44 4.52 4.83 8.97 13.1 17.2 1.06 1.92 2.79 3.66 4.03 7.30 10.6 13.9 40"	
<b>COOLING</b> Coolant capacity System Engine Radiator Coolant flow/min. 60 Hz 50 Hz Heat rejection to coolant Inlet air 60 Hz 50 Hz Max. inlet air temperature		17 lit. (4.5 US gal.) 10.5 lit. (2.75 US gal.) 6.5 lit. (1.75 US gal.) 80 lit. (19 US gal.) 66 lit. (16 US gal.) 186,000 BTU/hr. 128 m³/min. (4500 cfm) 107 m³/min. (3800 cfm) 110°F		17 lit. (4.5 US gal.) 10.5 lit. (2.75 US gal.) 6.5 lit. (1.75 US gal.) 80 lit. (19 US gal.) 66 lit. (16 US gal.) 215,061 BTU/hr. 128 m³/min. (4500 cfm) 107 m³/min. (3800 cfm) 110°F		17 lit. (4.5 US gal.) 10.5 lit. (2.75 US gal.) 6.5 lit. (1.75 US gal.) 80 lit. (19 US gal.) 66 lit. (16 US gal.) 150,000 BTU/hr. 128 m³/min. (4500 cfm) 107 m³/min. (3800 cfm) 110°F		17 lit. (4.5 US gal.) 10.5 lit. (2.75 US gal.) 6.5 lit. (1.75 US gal.) 80 lit. (19 US gal.) 66 lit. (16 US gal.) 186,000 BTU/hr. 128 m³/min. (4500 cfm) 107 m³/min. (3800 cfm) 110°F	
<b>COMBUSTION AIR REQUIREMENTS</b> Flow at rated power 60 Hz 50 Hz		4.2 m³/min. (150 cfm) 3.5 m³/min. (125 cfm)		4.2 m³/min. (150 cfm) 3.5 m³/min. (125 cfm)		4.2 m³/min. (150 cfm) 3.5 m³/min. (125 cfm)		4.2 m³/min. (150 cfm) 3.5 m³/min. (125 cfm)	
<b>EXHAUST</b> Exhaust flow at rated output 60 Hz 50 Hz Maximum recommended back pressure Exhaust temperature at rated output Exhaust outlet size		13 m³/min. (460 cfm) 10.7 m³/min. (380 cfm) 5 Kpa (1.5 " Hg) 454 °C (850 °F) 2.5" N.P.T. (female)		15.6 m³/min. (550 cfm) 12.4 m³/min. (440 cfm) 5 Kpa (1.5 " Hg) 470 °C (875 °F) 2.5" N.P.T. (female)		9.3 m³/min. (330 cfm) 7.3 m³/min. (260 cfm) 5 Kpa (1.5 " Hg) 421 °C (790 °F) 2.5" N.P.T. (female)		13 m³/min. (460 cfm) 10.7 m³/min. (380 cfm) 5 Kpa (1.5 " Hg) 454 °C (850 °F) 2.5" N.P.T. (female)	
<b>ENGINE</b> Rated RPM 60 Hz 50 Hz HP at rated KW 60 Hz 50 Hz Piston speed 60 Hz 50 Hz BMEP 60 Hz 50 Hz		1800 1500 80 64 424 M/min. (1386 ft./min.) 354 M/min. (1160 ft./min.) 144 138		1800 1500 96 77 424 M/min. (1386 ft./min.) 354 M/min. (1160 ft./min.) 173 166		1800 1500 66 52 424 M/min. (1386 ft./min.) 354 M/min. (1160 ft./min.) 118 113		1800 1500 80 64 424 M/min. (1386 ft./min.) 354 M/min. (1160 ft./min.) 144 138	
<b>DERATION FACTORS</b> Temperature 5% for every 10°C above 2.77% for every 10°F above Altitude 1.1% for every 100 m above 3.5% for every 1000 ft. above		43°C 110°F 2288 m 7500 ft.		43°C 110°F 2288 m 7500 ft.		43°C 110°F 2288 m 7500 ft.		43°C 110°F 2288 m 7500 ft.	

# STANDARD ENGINE & SAFETY FEATURES

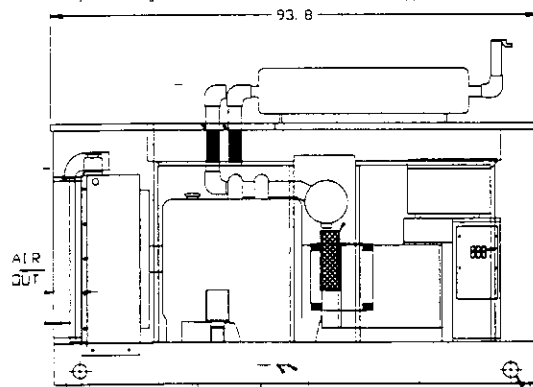
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- Low Oil Pressure Automatic Shutdown
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- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

## OPTIONS

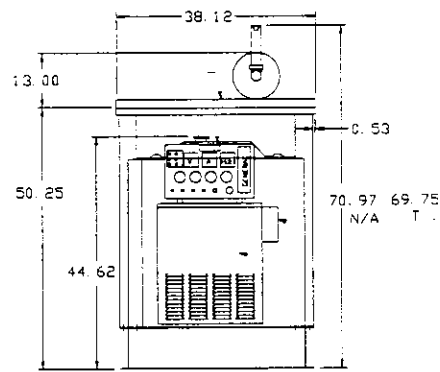
- **OPTIONAL COOLING SYSTEM ACCESSORIES**
  - Radiator Duct Adapter
  - Coolant Heater 120V
- **OPTIONAL FUEL ACCESSORIES**
  - Flexible Fuel Lines
  - Single Wall Base Tank
  - Double Wall Base Tank w/alarm
  - Base Tank Low Fuel Alarm
  - Primary Fuel Filter
  - Primary Fuel Filter with Heater
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  - Critical Exhaust Silencer
- **OPTIONAL ELECTRICAL ACCESSORIES**
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  - 10A Dual Rate Battery Charger
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  - Alternator Strip Heater
  - Alternator Tropicalization
  - Voltage Changeover (Board/Switch)
  - Main Line Circuit Breaker
- **CONTROL CONSOLE OPTIONS**
  - See control console specification sheet
- **ADDITIONAL OPTIONAL EQUIPMENT**
  - Automatic Transfer Switch
  - Weather Protective Enclosure (Locking Type)
  - Sound Attenuating Outdoor Enclosure
  - Isochronous Governor
  - 3 Light Remote Annunciator
  - 5 Light Remote Annunciator
  - 18 Light Remote Annunciator
  - Road Ready Trailer
  - Unit Vibration Isolators (Pad/Spring)
  - Oil Make-Up System
  - Oil Heater
  - 5 Year Warranty (Basic/Extended)
  - Export Boxing

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LEFT SIDE VIEW



PANEL END VIEW

WEIGHT: 2300 lbs.

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# SD125 SD130

## Liquid Cooled Diesel Engine Generator Sets

### Continuous Standby Power Rating

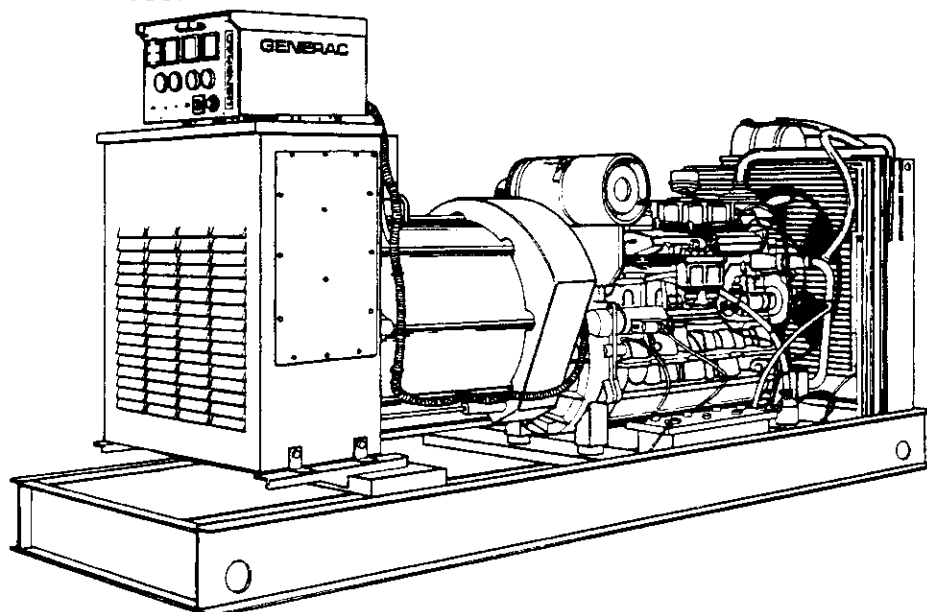
125KVA 50 Hz

130KW 60 Hz

### Prime Power Rating

106KVA 50 Hz

106KW 60 Hz



Power Matched

**GENERAC 7.5DT ENGINE**

Turbo Charged

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.
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# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

- ☐ BRUSHLESS .....
- Magnetically coupled DC current ✓
- Eight-pole exciter w/ battery-driven field boost ✓
- Mounted outboard of main bearing ✓
- ☐ PERMANENT MAGNET EXCITER .....
- Eighteen pole exciter ✓
- Magnetically coupled DC current ✓
- Mounted outboard of main bearing ✓
- REGULATION .....
- Solid-state ✓
- ±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated twice with class "H" varnish.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	7.5DT
CYLINDERS .....	6 in-line
DISPLACEMENT .....	7.5 Liter (457 cu.in.)
BORE .....	112 mm (4.41 in.)
STROKE .....	127 mm (5.00 in.)
COMPRESSION RATIO .....	17.9:1
INTAKE AIR .....	Turbo-Charged
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	6-Carbon Steel
CYLINDER HEAD .....	Cast Iron Overhead Valve
PISTONS .....	6-Heat Resistant Aluminum Alloy
CRANKSHAFT .....	Case hardened, Die Forged, Carbon Steel

### VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL .....	Special Heat Resistant Steel
EXHAUST VALVE MATERIAL .....	Special Heat Resistant Steel
HARDENED VALVE SEATS .....	Replaceable

### ENGINE GOVERNOR

- ☐ MECHANICAL (Gear Driven) .....
- Standard
- FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 5.0%
- STEADY STATE REGULATION .....
- ±0.33%
- ☐ ELECTRONIC .....
- Optional
- FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ... 0.5%
- STEADY STATE REGULATION .....
- ±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Forced Feed Lubrication w/ Oil Pump
OIL FILTER .....	Full flow, Cartridge
CRANKCASE CAPACITY .....	22.7 Liters (6 US gal.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, Closed Recovery
WATER PUMP .....	Pre-Lubed, Self-Sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	7
DIAMETER OF FAN .....	650 mm (26 in.)
COOLANT HEATER .....	120V, 1800 W

### FUEL SYSTEM

FUEL .....	#2D Fuel (Min Cetane #40)
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	10 Micron
FUEL INJECTION PUMP .....	Stanadyne
FUEL PUMP .....	Mechanical
INJECTORS .....	Multi-Hole, Nozzle Type
ENGINE TYPE .....	Direct Injection
FUEL LINE (Supply) .....	9.53 mm (0.375 in.)
FUEL RETURN LINE .....	9.53 mm (0.375 in.)

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	30 Amps at 12 V
STARTER MOTOR .....	12 V
RECOMMENDED BATTERY .....	12 V, 135 A.H., 4D
GROUND POLARITY .....	Negative

## OPERATING DATA

	STANDBY								PRIME																								
	SD125 (50 Hz)				SD130 (60 Hz)				SD125 (50 Hz)				SD130 (60 Hz)																				
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b> 120/240V, 1-phase, 1.0 pf 120/208V, 3-phase, 0.8 pf 120/240V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf 600V, 3-phase, 0.8 pf		NOTE: Consult your Generac dealer for additional voltages.						100 KW 130 KW 130 KW 130 KW 130 KW								100 KW 106 KW 106 KW 106 KW 106 KW																	
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b> 110/220V, 1-phase, 1.0 pf 115/200V, 3-phase, 0.8 pf 100/200V, 3-phase, 0.8 pf 231/400V, 3-phase, 0.8 pf 480V, 3-phase, 0.8 pf								80 KVA 125 KVA 125 KVA 125 KVA 125 KVA								68 KVA 106 KVA 106 KVA 106 KVA 106 KVA																	
<b>MOTOR STARTING</b> Maximum at 35% instantaneous voltage dip with standard alternator with optional alternator				<b>231V</b> 199 KVA 564 KVA		<b>400V</b> 294 KVA 789 KVA		<b>240V</b> 240 KVA 680 KVA		<b>480V</b> 330 KVA 950 KVA		<b>231V</b> 199 KVA 564 KVA		<b>400V</b> 294 KVA 789 KVA		<b>240V</b> 240 KVA 680 KVA		<b>480V</b> 330 KVA 950 KVA															
<b>FUEL</b> Fuel consumption Load gal./hr. liters/hr.  Fuel pump lift		<b>25%</b> 2.2 8.3		<b>50%</b> 4.2 15.9		<b>75%</b> 6.2 23.5		<b>100%</b> 8.2 31.0		<b>25%</b> 2.7 10.2		<b>50%</b> 5.2 19.7		<b>75%</b> 7.7 29.2		<b>100%</b> 10.2 38.7		<b>25%</b> 1.8 6.8		<b>50%</b> 3.5 13.2		<b>75%</b> 5.2 19.7		<b>100%</b> 6.8 25.7		<b>25%</b> 2.2 8.3		<b>50%</b> 4.2 15.9		<b>75%</b> 6.2 23.5		<b>100%</b> 8.2 31.0	
<b>COOLING</b> Coolant capacity System Engine Radiator Coolant flow/min. Heat rejection to coolant Inlet air Max. inlet air temperature		17.5 lit. (4.6 US gal.) 8.5 lit. (2.24 US gal.) 9 lit. (2.4 US gal.) 151 lit. (40 US gal.)  375,000 BTU/hr. 86.6 m³/min. (4123 cfm)  110°F		17.5 lit. (4.6 US gal.) 8.5 lit. (2.24 US gal.) 9 lit. (2.4 US gal.) 181 lit. (48.8 US gal.)  375,000 BTU/hr. 104 m³/min. (4950 cfm)  110°F		17.5 lit. (4.6 US gal.) 8.5 lit. (2.24 US gal.) 9 lit. (2.4 US gal.) 151 lit. (40 US gal.)  303,000 BTU/hr. 86.6 m³/min. (4123 cfm)  110°F		17.5 lit. (4.6 US gal.) 8.5 lit. (2.24 US gal.) 9 lit. (2.4 US gal.) 181 lit. (48.8 US gal.)  303,000 BTU/hr. 104 m³/min. (4950 cfm)  110°F																									
<b>COMBUSTION AIR REQUIREMENTS</b> Flow at rated power		9.7 m³/min. (341 cfm)		11.6 m³/min. (410 cfm)		8.9 m³/min. (316 cfm)		10.8 m³/min. (380 cfm)																									
<b>EXHAUST</b> Exhaust flow at rated output  Maximum recommended back pressure Exhaust temperature at rated output Exhaust outlet size		20.5 m³/min. (721cfm)  5 Kpa (1.5 " Hg) 554 °C (1030 °F) 3"		24.6 m³/min. (866 cfm)  5 Kpa (1.5 " Hg) 554 °C (1030 °F) 3"		23 m³/min. (825 cfm)  5 Kpa (1.5 " Hg) 525 °C (980 °F) 3"		28.2 m³/min. (992 cfm)  5 Kpa (1.5 " Hg) 525 °C (980 °F) 3"																									
<b>ENGINE</b> Rated RPM  HP at rated KW  Piston speed  BMEP		1500  160  381m/min.(1250ft./min.)  185		1800  208  457m/min.(1500ft./min.)  200		1500  136  381m/min.(1250ft./min.)  157		1800  169  457m/min.(1500ft./min.)  163																									
<b>DERATION FACTORS</b> Temperature 5% for every 10°C above 2.77% for every 10°F above Altitude 1.1% for every 100 m above 3.5% for every 1000 ft. above		25 °C 77°F  1067 m 3500 ft.		25 °C 77°F  1067 m 3500 ft.		25 °C 77°F  1525 m 5000 ft.		25 °C 77°F  1525 m 5000 ft.																									

# STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

## OPTIONS

### ■ OPTIONAL COOLING SYSTEM ACCESSORIES

- ☐ Radiator Duct Adapter
- ☐ 208/240V Coolant Heater

### ■ OPTIONAL FUEL ACCESSORIES

- ☐ Flexible Fuel Lines
- ☐ Single Wall Base Tank \_\_\_\_\_
- ☐ Double Wall Base Tank w/alarm \_\_\_\_\_
- ☐ Base Tank Low Fuel Alarm
- ☐ Primary Fuel Filter
- ☐ Primary Fuel Filter with Heater

### ■ OPTIONAL EXHAUST ACCESSORIES

- ☐ Critical Exhaust Silencer

### ■ OPTIONAL ELECTRICAL ACCESSORIES

- ☐ Battery, 12 Volt, 135 A.H.
- ☐ 2A Battery Charger
- ☐ 10A Dual Rate Battery Charger

### ■ OPTIONAL ALTERNATOR ACCESSORIES

- ☐ Alternator Upsizing \_\_\_\_\_
- ☐ Alternator Strip Heater
- ☐ Alternator Tropicalization
- ☐ Voltage Changeover (Board/Switch)
- ☐ Main Line Circuit Breaker \_\_\_\_\_

### ■ CONTROL CONSOLE OPTIONS

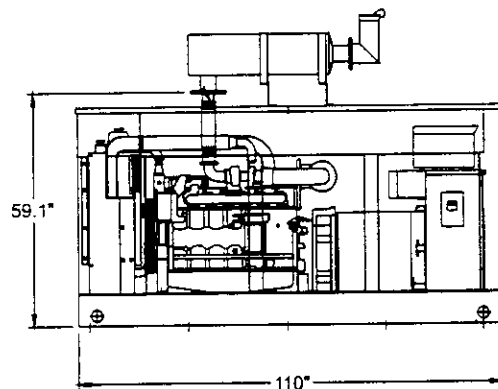
- See control console specification sheet

### ■ ADDITIONAL OPTIONAL EQUIPMENT

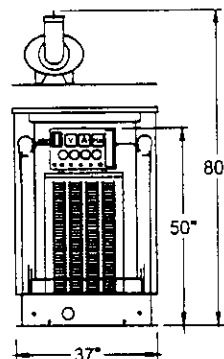
- ☐ Automatic Transfer Switch
- ☐ Weather Protective Enclosure (Locking Type)
- ☐ Sound Attenuating Outdoor Enclosure
- ☐ Isochronous Governor
- ☐ 3 Light Remote Annunciator
- ☐ 5 Light Remote Annunciator
- ☐ 18 Light Remote Annunciator
- ☐ Road Ready Trailer
- ☐ Unit Vibration Isolators (Pad/Spring)
- ☐ Oil Make-Up System
- ☐ Oil Heater
- ☐ 5 Year Warranty (Basic/Extended)
- ☐ Export Boxing

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



VISTA DEL LADO IZQUIERDO



VISTA DEL LADO DEL TABLERO

WEIGHT: 2900 lbs.

GENERAC CORPORATION • P.O. BOX 8 • WAUKESHA, WI 53187

414/544-4811 • FAX 414/544-4851



# SD230 SD250

## Liquid Cooled Diesel Engine Generator Sets

### Continuous Standby Power Rating

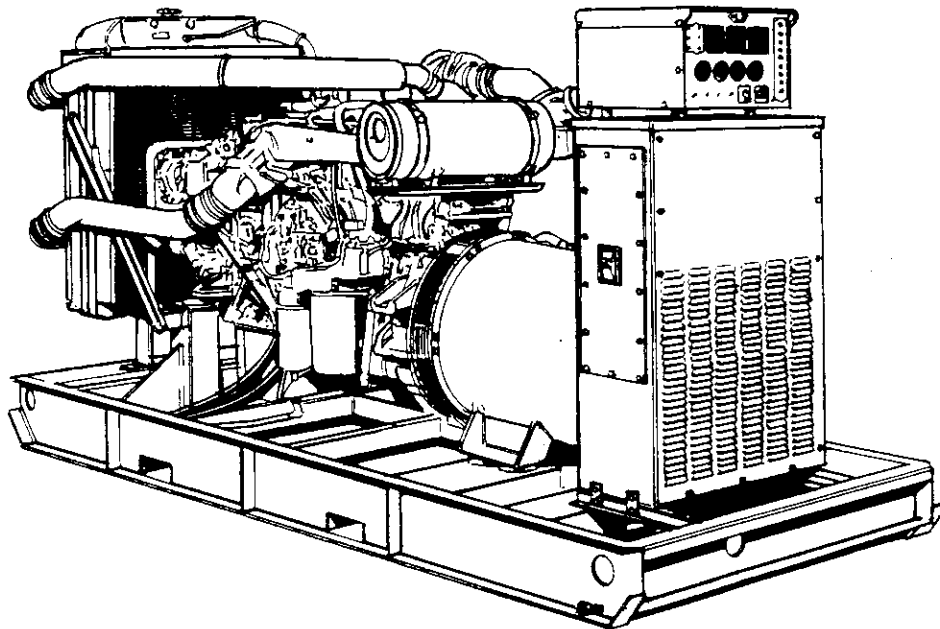
230KW 60 Hz /230KVA 50 Hz

250KW 60 Hz /250KVA 50 Hz

### Prime Power Rating

185KW 60 Hz /185KVA 50 Hz

205KW 60 Hz /205KVA 50 Hz



Power Matched

**GENERAC 12.0TA ENGINE**

Turbo-Charged, After Cooled

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM
- MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.
- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

PERMANENT MAGNET EXCITER .....	Eighteen-pole exciter ✓
	Magnetically coupled DC current ✓
	Mounted outboard of main bearing ✓
REGULATION .....	Solid-state ✓
	±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- Rotor and stator and other insulation is impregnated twice with class "H" varnish.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	12.0TA
CYLINDERS .....	6 in-line
DISPLACEMENT .....	11.945 Liter (726 cu. in.)
BORE .....	130 mm (5.11 in.)
STROKE .....	150 mm (5.91 in.)
COMPRESSION RATIO .....	16.5:1
INTAKE AIR .....	Turbo Charged, After Cooled
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	6-Carbon Steel
CYLINDER HEAD .....	(6) 1-Cylinder Cast Iron with Overhead Valve
PISTONS .....	6-Heat Resistant Aluminum Alloy
CRANKSHAFT .....	Case Hardened, Die Forged, Carbon Steel

### VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL .....	Special Heat Resistant Steel
EXHAUST VALVE MATERIAL .....	Sellited Faced Heat Resistant Steel
HARDENED VALVE SEATS .....	Replaceable

### ENGINE GOVERNOR

□ ELECTRONIC .....	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD ...	0.5%
STEADY STATE REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Bypass and Full flow, cartridge
CRANKCASE CAPACITY .....	27 Liters (7.13 qts.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP .....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	7
DIAMETER OF FAN .....	762 mm (30 in.)
COOLANT HEATER .....	Dual 110V, 1800 W

### FUEL SYSTEM

FUEL .....	#2D Fuel (Min Cetane #40)
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	10 Micron
FUEL INJECTION PUMP .....	Bosch PE6P Type
FUEL PUMP .....	Mechanical
INJECTORS .....	Multi-hole, nozzle type
ENGINE TYPE .....	Direct injection
FUEL LINE (Supply) .....	9.53 mm (0.375 in.)
FUEL RETURN LINE .....	9.53 mm (0.375 in.)

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	35 Amps at 24 V
STARTER MOTOR .....	24 V
RECOMMENDED BATTERY .....	2—12V, 135 AH
GROUND POLARITY .....	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## OPERATING DATA

			STANDBY				PRIME			
			SD230		SD250		SD230		SD250	
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b>										
120/240V, 1-phase, 1.0 pf			150 KW		250 KW		150 KW		168 KW	
120/208V, 3-phase, 0.8 pf			230 KW		250 KW		185 KW		205 KW	
120/240V, 3-phase, 0.8 pf			230 KW		250 KW		185 KW		205 KW	
277/480V, 3-phase, 0.8 pf			230 KW		250 KW		185 KW		205 KW	
600V, 3-phase, 0.8 pf			230 KW		250 KW		185 KW		205 KW	
NOTE: Consult your Generac dealer for additional voltages.										
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b>										
110/220V, 1-phase, 1.0 pf			150 KVA		250 KVA		150 KVA		168 KVA	
115/200V, 3-phase, 0.8 pf			230 KVA		250 KVA		185 KVA		205 KVA	
100/200V, 3-phase, 0.8 pf			230 KVA		250 KVA		185 KVA		205 KVA	
231/400V, 3-phase, 0.8 pf			230 KVA		250 KVA		185 KVA		205 KVA	
480V, 3-phase, 0.8 pf			230 KVA		250 KVA		185 KVA		205 KVA	
NOTE: Consult your Generac dealer for additional voltages.										
<b>MOTOR STARTING</b>										
Maximum at 35% instantaneous voltage dip with standard alternator; 50/60 Hz										
with optional alternator; 50/60 Hz										
			<b>240V</b>	<b>480V</b>	<b>240V</b>	<b>480V</b>	<b>240V</b>	<b>480V</b>	<b>240V</b>	<b>480V</b>
			566/680 KVA	792/950 KVA	566/680 KVA	792/950 KVA	566/680 KVA	792/950 KVA	566/680 KVA	792/950 KVA
			800/960 KVA	1116/1340 KVA	800/960 KVA	1116/1340 KVA	800/960 KVA	1116/1340 KVA	800/960 KVA	1116/1340 KVA
<b>FUEL</b>										
Fuel consumption—60 Hz			<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>
Load gal./hr.			4.3	7.4	10.8	15.0	4.8	7.6	11.2	16.4
liters/hr.			16.3	28.1	40.9	56.9	18.2	28.8	42.5	62.2
Fuel consumption—50 Hz			<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>
gal./hr.			3.2	6.5	8.7	13.2	4.2	6.4	10.1	13.3
liters/hr.			12.1	24.6	32.9	50.0	15.9	24.3	38.3	50.4
Fuel pump lift			40"		40"		40"		40"	
<b>COOLING</b>										
Coolant capacity			58 lit. (15.3 US gal.)		58 lit. (15.3 US gal.)		58 lit. (15.3 US gal.)		58 lit. (15.3 US gal.)	
Engine			21 lit. (5.54 US gal.)		21 lit. (5.54 US gal.)		21 lit. (5.54 US gal.)		21 lit. (5.54 US gal.)	
Radiator			37 lit. (9.8 US gal.)		37 lit. (9.8 US gal.)		37 lit. (9.8 US gal.)		37 lit. (9.8 US gal.)	
Coolant flow/min.			225 lit. (59.4 US gal.)		225 lit. (59.4 US gal.)		225 lit. (59.4 US gal.)		225 lit. (59.4 US gal.)	
60 Hz			188 lit. (49.5 US gal.)		188 lit. (49.5 US gal.)		188 lit. (49.5 US gal.)		188 lit. (49.5 US gal.)	
50 Hz			725,000 BTU/hr.		758,000 BTU/hr.		710,000 BTU/hr.		710,000 BTU/hr.	
Heat rejection to coolant			493 m³/min. (17,400 cfm)		493 m³/min. (17,400 cfm)		493 m³/min. (17,400 cfm)		493 m³/min. (17,400 cfm)	
Inlet air			410 m³/min. (14,500 cfm)		410 m³/min. (14,500 cfm)		410 m³/min. (14,500 cfm)		410 m³/min. (14,500 cfm)	
60 Hz			110 °F		110 °F		110 °F		110 °F	
50 Hz										
Max. inlet air temperature										
<b>COMBUSTION AIR REQUIREMENTS</b>										
Flow at rated power			18.1 m³/min. (640 cfm)		19.8 m³/min. (700 cfm)		15.6 m³/min. (550 cfm)		15.6 m³/min. (550 cfm)	
60 Hz			15.2 m³/min. (537 cfm)		16.5 m³/min. (583 cfm)		10.6 m³/min. (374 cfm)		10.6 m³/min. (374 cfm)	
50 Hz										
<b>EXHAUST</b>										
Exhaust flow at rated output			42.5 m³/min. (1500 cfm)		46.3 m³/min. (1636 cfm)		42.5 m³/min. (1500 cfm)		42.5 m³/min. (1500 cfm)	
60 Hz			35.4 m³/min. (1250 cfm)		38.6 m³/min. (1363 cfm)		35.4 m³/min. (1250 cfm)		35.4 m³/min. (1250 cfm)	
50 Hz			10.0 Kpa (3" Hg)		10.0 Kpa (3" Hg)		10.0 Kpa (3" Hg)		10.0 Kpa (3" Hg)	
Maximum recommended back pressure			565 °C (950 °F)		595 °C (1000 °F)		530 °C (900 °F)		530 °C (900 °F)	
Exhaust temperature at rated output			5"		5"		5"		5"	
Exhaust outlet size										
<b>ENGINE</b>										
Rated RPM			1800		1800		1800		1800	
60 Hz			1500		1500		1500		1500	
50 Hz			343		372		320		355	
HP at rated KW			274		298		256		284	
60 Hz			541 M/min. (1773 ft./min.)		541 M/min. (1773 ft./min.)		541 M/min. (1773 ft./min.)		541 M/min. (1773 ft./min.)	
50 Hz			451 M/min. (1477 ft./min.)		451 M/min. (1477 ft./min.)		451 M/min. (1477 ft./min.)		451 M/min. (1477 ft./min.)	
Piston speed			186		202		167		182	
60 Hz			176		174		160		174	
50 Hz										
BMEP										
<b>DERATION FACTORS</b>										
Temperature			43 °C		43 °C		43 °C		43 °C	
5% for every 10°C above			110 °F		110 °F		110 °F		110 °F	
2.77% for every 10°F above										
Altitude			1980 m		1220 m		1980 m		1980 m	
1.1% for every 100 m above			6500 ft.		4000 ft.		6500 ft.		6500 ft.	
3.5% for every 1000 ft. above										

# STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter

- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console

## OPTIONS

### ■ OPTIONAL COOLING SYSTEM ACCESSORIES

- Radiator Duct Adapter
- Coolant Heater 480 VAC

### ■ OPTIONAL FUEL ACCESSORIES

- Flexible Fuel Lines
- Single Wall Base Tank \_\_\_\_\_
- Double Wall Base Tank w/alarm \_\_\_\_\_
- Base Tank Low Fuel Alarm
- Primary Fuel Filter
- Primary Fuel Filter with Heater

### ■ OPTIONAL EXHAUST ACCESSORIES

- Critical Exhaust Silencer

### ■ OPTIONAL ELECTRICAL ACCESSORIES

- Battery, 12 Volt, 135 A.H., 4D (2 req'd)
- Battery, 12 Volt, 225 A.H., 8D (2 req'd)
- 2A Battery Charger
- 10A Dual Rate Battery Charger
- Battery Heater

### ■ OPTIONAL ALTERNATOR ACCESSORIES

- Alternator Upsizing \_\_\_\_\_
- Alternator Strip Heater
- Alternator Tropicalization
- Voltage Changeover (Board/Switch)
- Main Line Circuit Breaker \_\_\_\_\_

### ■ CONTROL CONSOLE OPTIONS

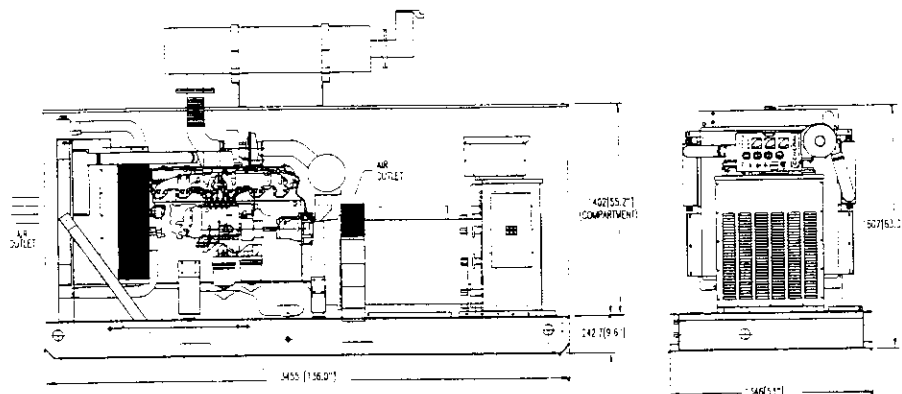
- See control console specification sheet

### ■ ADDITIONAL OPTIONAL EQUIPMENT

- Automatic Transfer Switch
- Weather Protective Enclosure (Locking Type)
- Sound Attenuating Outdoor Enclosure
- Isochronous Governor
- 3 Light Remote Annunciator
- 5 Light Remote Annunciator
- 18 Light Remote Annunciator
- Road Ready Trailer
- Unit Vibration Isolators (Pad/Spring)
- Oil Make-Up System
- Oil Heater
- 5 Year Warranty (Basic/Extended)
- Export Boxing

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



WEIGHT: 5600 lbs.

GENERAC CORPORATION • P.O. BOX 8 • WAUKESHA, WI 53187

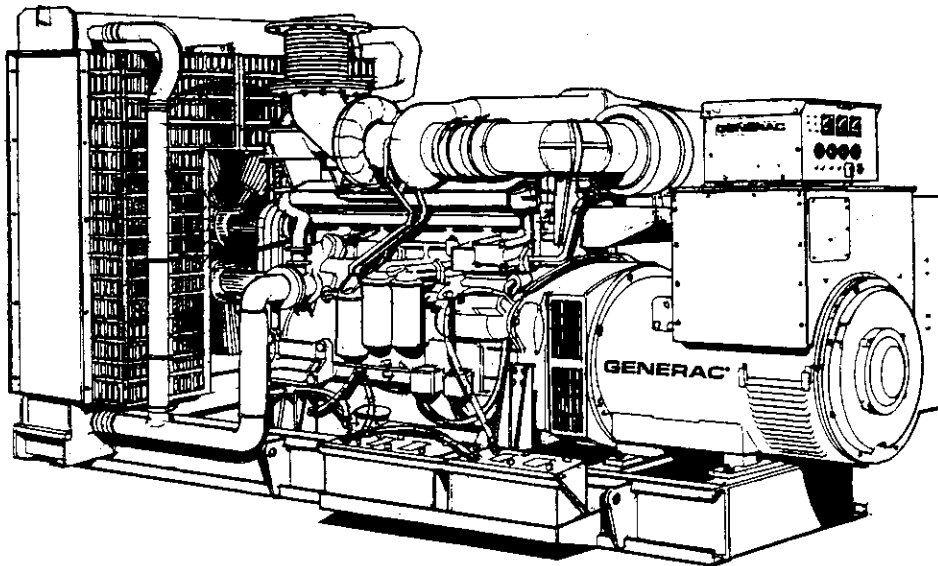
414/544-4811 • FAX 414/544-4851

# SD400

## Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating  
400KW 60 Hz / 420KVA 50Hz

Prime Power Rating  
336KW 60 Hz / 380KVA 50Hz



Power Matched  
**GENERAC 14.6DTA ENGINE**  
Turbo Charged / Aftercooled

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM
- MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.
- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC FACTOR (THF) .....	<2%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME) .....	110%

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

<input type="checkbox"/> BRUSHLESS .....	Magnetically coupled field ✓
	Class "H" Insulation ✓
<input type="checkbox"/> PERMANENT MAGNET EXCITER .....	±0.5% regulation ✓
(optional)	Enhances motor starting capabilities ✓
	Isolates the excitation system from non-linear loads ✓
	Sustains short circuit current (300% for 10 seconds) ✓
	Mounted outboard of main bearing (for easy maintenance) ✓
REGULATION .....	Solid-state ✓
	±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "H" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, and 2/3 pitch stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is tropicalized, self-ventilated and drip-proof constructed.
- Optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

## ENGINE SPECIFICATIONS

MAKE .....	Mitsubishi
MODEL .....	S6B3-PTA
CYLINDERS .....	6
DISPLACEMENT - liter/(cu. in.) .....	14.6 (890.9)
BORE - mm/(in.) .....	135 (5.31)
STROKE - mm/(in.) .....	170 (6.69)
COMPRESSION RATIO .....	14.2:1
INTAKE AIR .....	Turbo Charged/Aftercooled (Jacket Water)
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	I-Beam Section
CYLINDER HEAD .....	Individual Cylinder Heads/Four Valves
PISTONS .....	Open Chamber/Oil Cooled
CRANKSHAFT .....	Counter Weighted Type

### VALVE TRAIN

LIFTER TYPE .....	Plain Bearing/Single Cam
HARDENED VALVE SEATS .....	Yes

### ENGINE GOVERNOR

<input type="checkbox"/> ELECTRONIC / ISOCHRONOUS .....	Standard
STEADY STATE FREQUENCY REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full Flow Cartridge
CRANKCASE CAPACITY - liter/(gal.) .....	50 (13.2)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pres. Closed Recovery
WATER PUMP .....	Pre-Lubed, Self Sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN - mm/(in.) .....	800 (31.5)
COOLANT HEATER .....	240V(2500W)

### FUEL SYSTEM

FUEL .....	No. 2 Diesel Fuel
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	Paper Element Type
FUEL INJECTION PUMP .....	Bosch P Type x 1
FUEL PUMP .....	Bosch/Piston Type
INJECTORS .....	Bosch Multi-Hole
ENGINE TYPE .....	In-Line Six Cylinder
FUEL LINE (Supply) .....	1/2" FNPT
FUEL RETURN LINE .....	1/2" FNPT

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	30 Amps at 24V
STARTER MOTOR .....	6.0 kW at 24V
RECOMMENDED BATTERY .....	2 x 12V
GROUND POLARITY .....	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## OPERATING DATA

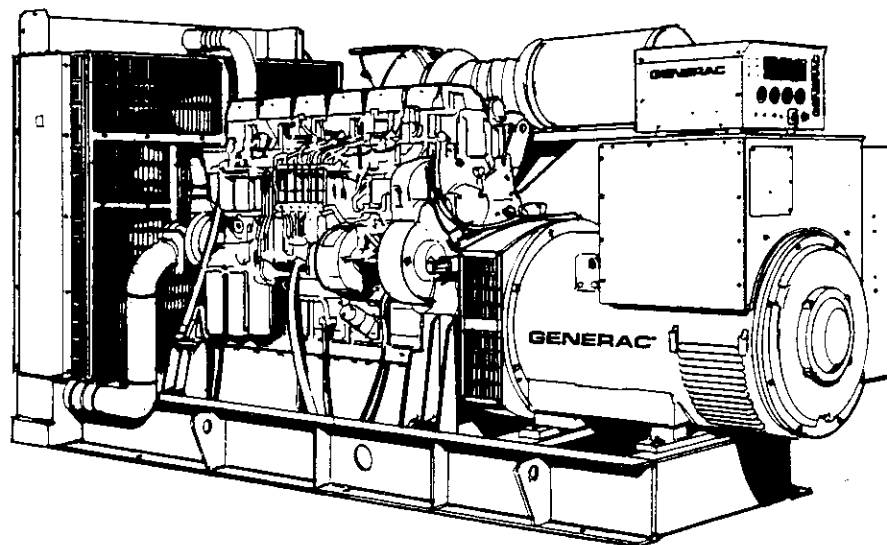
	STANDBY	PRIME
	SD400	SD400
<b>GENERATOR OUTPUT VOLTAGE/KW—60Hz</b> 120/208V, 3-phase, 0.8 pf 120/240V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf 600V, 3-phase, 0.8 pf	400 400 400 400	336 336 336 336
NOTE: Consult your Generac dealer for additional voltages.		
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b> 220/380V, 3-phase, 0.8 pf 230/400V, 3-phase, 0.8 pf 240/415V, 3-phase, 0.8 pf	420 420 420	380 380 380
NOTE: Consult your Generac dealer for additional voltage		
<b>MOTOR STARTING</b> Locked rotor kva at 30% instantaneous voltage dip with standard alternator; 60 Hz-kva with standard alternator; 50 Hz-kva Note: For Permanent Magnet Exciter (consult factory)	<b>415V</b> 920  <b>480V</b> 970	<b>415V</b> 920  <b>480V</b> 970
<b>FUEL</b> Fuel consumption—60 Hz Load gal./hr. liters/hr. Fuel consumption—50 Hz gal./hr. liters/hr. Fuel pump lift in.	<b>25%</b> 6.85 25.92 5.74 21.72  <b>50%</b> 13.70 51.85 11.48 43.45 55  <b>75%</b> 20.55 77.77 17.22 65.17  <b>100%</b> 27.4 103.69 22.96 86.89	<b>25%</b> 5.76 21.81 5.18 19.60  <b>50%</b> 11.53 43.63 10.36 39.20 55  <b>75%</b> 17.29 65.44 15.54 58.80  <b>100%</b> 23.05 87.25 20.71 78.40
<b>COOLING</b> Coolant capacity System - lit./gal. Engine - lit./gal. Radiator - lit./gal. Coolant flow/min. 60 Hz - lit./gal. 50 Hz - lit./gal. Heat rejection to coolant BTU/hr. Inlet air 60 Hz - m³/min. (cfm) 50 Hz - m³/min. (cfm) Ambient temperature °C (°F) Air on to RAD °C (°F) Max. external pressure drop on radiator in. H₂O	85(22.42) 30 (7.9) 55 (14.52) 500 (132) 430 (114) 863,820 540 (19067) 450 (15890) 45 (113) 50 (122) 1.0	85(22.42) 30 (7.9) 55 (14.52) 500 (132) 430 (114) 776,340 540 (19067) 450 (15890) 45 (113) 50 (122) 1.0
<b>COMBUSTION AIR REQUIREMENTS</b> Flow at rated power 60 Hz - m³/min. (cfm) 50 Hz - m³/min. (cfm)	35 (1236) 30 (1059)	31 (1095) 27 (953)
<b>EXHAUST</b> Exhaust flow at rated output 60 Hz - m³/min. (cfm) 50 Hz - m³/min. (cfm) Maximum recommended back pressure Kpa (" Hg) Exhaust temperature at rated output °C (°F) Exhaust outlet size mm.	92 (3249) 80 (2825) 5.7 (1.7) 490 (914) 150	82 (2895) 72 (2542) 5.7 (1.7) 475 (887) 150
<b>ENGINE</b> Rated RPM 60 Hz 50 Hz HP at rated KW 60 Hz 50 Hz Piston speed 60 Hz - m/sec. (ft./min) 50 Hz - m/sec. (ft./min) BMEP 60 Hz - PSI 50 Hz - PSI	1800 1500 574 481 10.2 (2008) 8.5 (1673) 274 294	1800 1500 483 434 10.2 (2008) 8.5 (1673) 249 266
<b>DERATION FACTORS</b> Temperature 5% for every 10°C above - C° 2.77% for every 10°F above - F° Altitude 1.1% for every 100 m above - m 3.5% for every 1000 ft. above - ft.	40 104 1500 5000	40 104 1500 5000

# SD625

## Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating  
625KW 60 Hz / 659KVA 50Hz

Prime Power Rating  
547KW 60 Hz / 590KVA 50Hz



Power Matched  
**GENERAC 24.5PTA ENGINE**  
Turbo Charged / Aftercooled

### FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
  - **TEST CRITERIA:**
    - ✓ PROTOTYPE TESTED
    - ✓ SYSTEM TORSIONAL TESTED
    - ✓ ELECTRO-MAGNETIC INTERFERENCE
    - ✓ NEMA MG1-22 EVALUATION
    - ✓ MOTOR STARTING ABILITY
    - ✓ SHORT CIRCUIT TESTING
  - **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM
- MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
  - **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.
  - **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
  - **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
  - **GENERAC TRANSFER SWITCHES AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

# GENERAC®

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## POWER SYSTEMS



# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC FACTOR (THF) .....	<2%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME)* .....	110%

\* Average load over a 24-hour period shall not exceed 70% of the prime rating, of which no more than 2 hours are between 100 - 110% of the prime rating.

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

<input type="checkbox"/> BRUSHLESS .....	Magnetically coupled field ✓
	Class "H" Insulation ✓
<input type="checkbox"/> PERMANENT MAGNET EXCITER .....	±0.5% regulation ✓
(optional)	Enhances motor starting capabilities ✓
	Isolates the excitation system from non-linear loads ✓
	Sustains short circuit current (300% for 10 seconds) ✓
	Mounted outboard of main bearing (for easy maintenance) ✓
REGULATION .....	Solid-state ✓
	±1% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "H" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, and 2/3 pitch stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is tropicalized, self-ventilated and drip-proof constructed.
- Optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## ENGINE SPECIFICATIONS

MAKE .....	Mitsubishi
MODEL .....	S6R-PTA
CYLINDERS .....	6
DISPLACEMENT - liter/(cu. in.) .....	24.5 (1495.0)
BORE - mm/(in.) .....	170 (6.69)
STROKE - mm/(in.) .....	180 (7.09)
COMPRESSION RATIO .....	14.0:1
INTAKE AIR .....	Turbo Charged/Aftercooled (Jacket Water)
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	I-Beam Section
CYLINDER HEAD .....	Individual Cylinder Heads/Four Valves
PISTONS .....	Open Chamber/Oil Cooled
CRANKSHAFT .....	Counter Weighted Type

### VALVE TRAIN

LIFTER TYPE .....	Plain Bearing/Single Cam
HARDENED VALVE SEATS .....	Yes

### ENGINE GOVERNOR

<input type="checkbox"/> ELECTRONIC / ISOCHRONOUS .....	Standard
STEADY STATE FREQUENCY REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full Flow Cartridge
CRANKCASE CAPACITY - liter(gal.) .....	100 (26.4)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pres. Closed Recovery
WATER PUMP .....	Pre-Lubed, Self Sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN - mm/(in.) .....	1010 (39.8)
COOLANT HEATER .....	240V(2500W)

### FUEL SYSTEM

FUEL .....	No. 2 Diesel Fuel
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	Full Flow Cartridge
FUEL INJECTION PUMP .....	Bosch P Type x 1
FUEL PUMP .....	Bosch/Piston Type
INJECTORS .....	Bosch Multi-Hole
ENGINE TYPE .....	In-Line Six Cylinder
FUEL LINE (Supply) .....	1/2" FNPT
FUEL RETURN LINE .....	1/2" FNPT

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	30 Amps at 24V
STARTER MOTOR .....	7.5 kW at 24V
RECOMMENDED BATTERY .....	2 x 12V
GROUND POLARITY .....	Negative

## OPERATING DATA

		STANDBY				PRIME			
		SD625				SD625			
<b>GENERATOR OUTPUT VOLTAGE/KW—60Hz</b>									
120/208V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.	625				547			
120/240V, 3-phase, 0.8 pf		625				547			
277/480V, 3-phase, 0.8 pf		625				547			
600V, 3-phase, 0.8 pf		625				547			
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b>									
220/380V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltage	659				590			
230/400V, 3-phase, 0.8 pf		659				590			
240/415V, 3-phase, 0.8 pf		659				590			
<b>MOTOR STARTING</b>									
Locked rotor kva at 30% instantaneous voltage dip with standard alternator; 60 Hz-kva with standard alternator; 50 Hz-kva		<b>415V</b>		<b>480V</b>		<b>415V</b>		<b>480V</b>	
Note: For Permanent Magnet Exciter(consult factory)		1300		1500		1300		1500	
<b>FUEL</b>									
Fuel consumption—60 Hz	Load	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>
	gal./hr.	9.89	19.78	29.67	39.56	8.64	17.27	25.91	34.54
	liters/hr.	37.43	74.86	112.30	149.73	32.68	65.37	98.05	130.74
Fuel consumption—50 Hz	gal./hr.	8.33	16.67	25.00	33.33	7.50	15.01	22.51	30.02
	liters/hr.	31.54	63.08	94.62	126.16	28.40	56.81	85.21	113.61
Fuel pump lift	in.	55				55			
<b>COOLING</b>									
Coolant capacity	System - lit./gal.	134 (35.4)				134 (35.4)			
	Engine - lit./gal.	50 (13.2)				50 (13.2)			
	Radiator - lit./gal.	84 (22.2)				84 (22.2)			
Coolant flow/min.	60 Hz - lit./gal.	800 (211)				800 (211)			
	50 Hz - lit./gal.	670 (177)				670 (177)			
Heat rejection to coolant	BTU/hr.	1,346,000				1,223,460			
Inlet air	60 Hz - m³/min. (cfm)	720 (25423)				720 (25423)			
	50 Hz - m³/min. (cfm)	582 (20550)				582 (20550)			
Ambient temperature	°C (°F)	45 (113)				45 (113)			
Air on to RAD	°C (°F)	50 (122)				50 (122)			
Max. external pressure drop on radiator	in. H <sub>2</sub> O	0.5				0.5			
<b>COMBUSTION AIR REQUIREMENTS</b>									
Flow at rated power 60 Hz - m³/min. (cfm)		54 (1907)				49 (1730)			
50 Hz - m³/min. (cfm)		46 (1624)				42 (1483)			
<b>EXHAUST</b>									
Exhaust flow at rated output									
60 Hz - m³/min. (cfm)		143 (5049)				130 (4590)			
50 Hz - m³/min. (cfm)		122 (4308)				110 (3884)			
Maximum recommended back pressure									
Kpa (" Hg)		5.6 (1.7)				5.6 (1.7)			
Exhaust temperature at rated output									
°C (°F)		550 (1022)				540 (1004)			
Exhaust outlet size	mm.	200				200			
<b>ENGINE</b>									
Rated RPM	60 Hz	1800				1800			
	50 Hz	1500				1500			
HP at rated KW	60 Hz	883				771			
	50 Hz	744				670			
Piston speed	60 Hz - m/sec. (ft./min)	10.8 (2126)				10.8 (2126)			
	50 Hz - m/sec. (ft./min)	9 (1772)				9 (1772)			
BMEP	60 Hz - PSI	273				235			
	50 Hz - PSI	270				243			
<b>DERATION FACTORS</b>									
Temperature									
5% for every 10°C above - C°		40				40			
2.77% for every 10°F above - F°		104				104			
Altitude									
1.1% for every 100 m above - m		1500				1500			
3.5% for every 1000 ft. above - ft.		5000				5000			

# STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain
- Factory-Installed Cool Flow Radiator
- Closed Coolant System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Stainless Steel Flexible Exhaust Connection

- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation between unit base and structure
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Isochronous Governor
- Jacket water heater
- Flexible fuel lines (stainless steel braid)
- Secondary Fuel Filter

## CONTROL CONSOLE OPTIONS

- **STANDARD "C" OPTION PANEL**
  - A leading control system standard in the power generation industry. (see Generac bulletin # SBY, 15116)
- **RAMPOWER 232 DIGITAL GENERATOR CONTROL PANEL**
  - Access to fully digital generator instrumentation via modem, a laptop computer or locally at the front control panel for tighter control of the power generator system. (see Generac bulletin # SBY, 15721)

## OPTIONS

- **OPTIONAL COOLING SYSTEM ACCESSORIES**
  - Radiator Duct Adapter
  - Optional coolant systems (consult factory)
  - High ambient radiator (50°C / 122 °F)
  - Low ambient radiator (40°C / 104 °F)

- **OPTIONAL FUEL ACCESSORIES**
  - Base Tank Low Fuel Alarm
  - Primary Fuel Filter
  - Primary Fuel Filter with Heater
  - Fuel tanks (single/double wall) \_\_\_\_\_
  - Electric fuel transfer pump system

- **OPTIONAL ELECTRICAL ACCESSORIES**
  - 10A Dual Rate Battery Charger
  - Battery, 24 Volt
  - Battery warmer

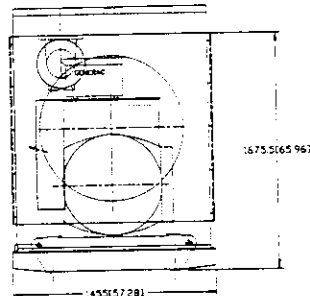
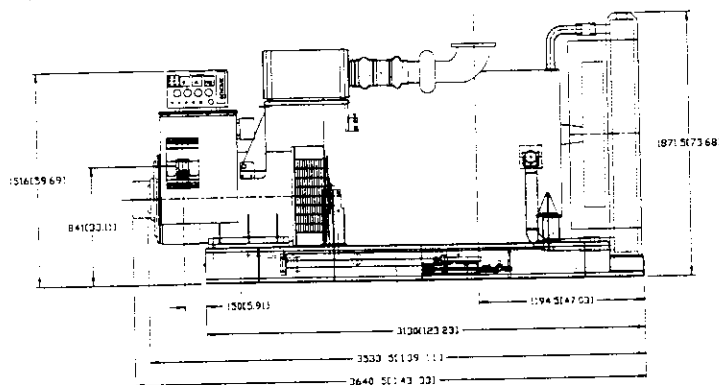
- **OPTIONAL ALTERNATOR ACCESSORIES**
  - Alternator Upsizing (consult factory)
  - Alternator Heater
  - Main Line Circuit Breaker \_\_\_\_\_  
(factory installed up to 1200 Amp.)
  - 3 Phase sensing volt regulator (standard on PMG)

- **OPTIONAL EXHAUST ACCESSORIES**
  - Critical Exhaust Silencer
  - Residential Exhaust Silencer
  - Industrial Exhaust Silencer

- **ADDITIONAL OPTIONAL EQUIPMENT**
  - Automatic Transfer Switch (100 Amp - 2600 Amp)
  - Weather Protective Enclosure (Locking Type)
  - Sound Attenuating Outdoor Enclosure
  - 3 Light Remote Annunciator ("C" panel only)
  - 5 Light Remote Annunciator ("C" panel only)
  - 18 Light Remote Annunciator (all panels)
  - Unit Vibration Isolators (Spring)
  - Oil Make-Up System
  - Oil Heater
  - 5 Year Warranty (Basic/Extended)
  - Export Boxing

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DRY WEIGHT: 8100 lbs.

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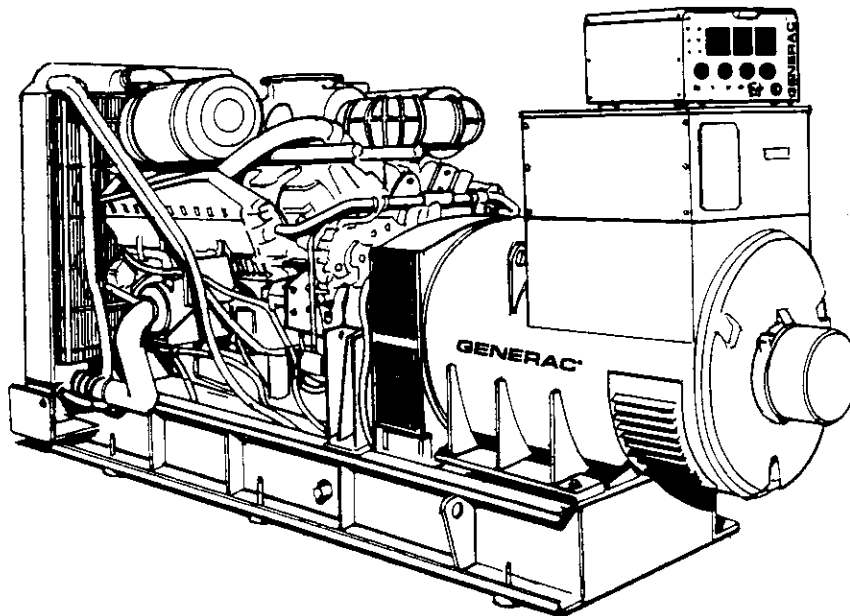
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# SD800

## Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating  
800KW 60 Hz / 860KVA 50Hz

Prime Power Rating  
690KW 60 Hz / 780KVA 50Hz



Power Matched  
**GENERAC 33.9PTA ENGINE**  
Turbo Charged / Aftercooled

### FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM
- MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.
- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.
- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and controls for total system compatibility.

# GENERAC®

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## POWER SYSTEMS

# APPLICATION & ENGINEERING DATA

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC FACTOR (THF) .....	<2%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%
LOAD CAPACITY (PRIME)* .....	110%

\* Average load over a 24-hour period shall not exceed 70% of the prime rating, of which no more than 2 hours are between 100 - 110% of the prime rating.

**NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN2671 standards.**

### EXCITATION SYSTEM

<input type="checkbox"/> BRUSHLESS .....	Magnetically coupled field ✓
	Class "H" Insulation ✓
<input type="checkbox"/> PERMANENT MAGNET EXCITER .....	±0.5% regulation ✓
(standard)	Enhances motor starting capabilities ✓
	Isolates the excitation system from non-linear loads ✓
	Sustains short circuit current (300% for 10 seconds) ✓
	Mounted outboard of main bearing (for easy maintenance) ✓
REGULATION .....	Solid-state ✓
	±0.5% regulation ✓

## GENERATOR FEATURES

- Four pole, revolving field generator, directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "H" insulation as defined by NEMA MG1-22.4 and NEMA MG1-1.65.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit tested for motor-starting ability by measuring instantaneous voltage dip with an oscillograph.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, and 2/3 pitch stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, and T.I.F. (Telephone Influence Factor) have been evaluated to acceptable standards in accordance with NEMA MG1-22.
- Alternator is tropicalized, self-ventilated and drip-proof constructed.
- Optional main-line circuit breakers capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

## ENGINE SPECIFICATIONS

MAKE .....	Mitsubishi
MODEL .....	S12A2-PTA
CYLINDERS .....	12
DISPLACEMENT - liter/(cu. in.) .....	33.9 (2070.4)
BORE - mm/(in.) .....	150 (5.91)
STROKE - mm/(in.) .....	160 (6.30)
COMPRESSION RATIO .....	14.5:1
INTAKE AIR .....	Turbo Charged/Aftercooled (Jacket Water)
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	I-Beam Section
CYLINDER HEAD .....	Individual Cylinder Heads/Four Valves
PISTONS .....	Open Chamber/Oil Cooled
CRANKSHAFT .....	Counter Weighted Type

### VALVE TRAIN

LIFTER TYPE .....	Plain Bearing/Single Cam
HARDENED VALVE SEATS .....	Yes

### ENGINE GOVERNOR

<input type="checkbox"/> ELECTRONIC / ISOCHRONOUS .....	Standard
STEADY STATE FREQUENCY REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear
OIL FILTER .....	Full Flow Cartridge
CRANKCASE CAPACITY - liter(gal.) .....	120 (31.7)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pres. Closed Recovery
WATER PUMP .....	Pre-Lubed, Self Sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN - mm/(in.) .....	1250 (49.2)
COOLANT HEATER .....	2 x 240V(2500W)

### FUEL SYSTEM

FUEL .....	No. 2 Diesel Fuel
	(Fuel should conform to ASTM Spec.)
FUEL FILTER .....	Full Flow Cartridge
FUEL INJECTION PUMP .....	Bosch P Type x 2
FUEL PUMP .....	Bosch/Piston Type
INJECTORS .....	Bosch Multi-Hole
ENGINE TYPE .....	Vee Type Twelve Cylinder
FUEL LINE (Supply) .....	1/2" FNPT
FUEL RETURN LINE .....	1/2" FNPT

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	30 Amps at 24V
STARTER MOTOR .....	2 x 6.0 kW at 24V
RECOMMENDED BATTERY .....	2 x 12V
GROUND POLARITY .....	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

## OPERATING DATA

	STANDBY	PRIME
	SD800	SD800
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b> 120/208V, 3-phase, 0.8 pf 120/240V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf 600V, 3-phase, 0.8 pf NOTE: Consult your Generac dealer for additional voltages.	800 800 800 800	690 690 690 690
<b>GENERATOR OUTPUT VOLTAGE/KVA-50Hz</b> 220/380V, 3-phase, 0.8 pf 230/400V, 3-phase, 0.8 pf 240/415V, 3-phase, 0.8 pf NOTE: Consult your Generac dealer for additional voltage	860 860 860	780 780 780
<b>MOTOR STARTING</b> Locked rotor kva at 30% instantaneous voltage dip with standard alternator; 60 Hz-kva with standard alternator; 50 Hz-kva Note: For Permanent Magnet Exciter (consult factory)	<b>415V</b> 2150 <b>480V</b> 2400	<b>415V</b> 2150 <b>480V</b> 2400
<b>FUEL</b> Fuel consumption—60 Hz Load gal./hr. liters/hr. Fuel consumption—50 Hz gal./hr. liters/hr. Fuel pump lift in.	<b>25%</b> 13.79 52.20 <b>50%</b> 27.58 104.41 <b>75%</b> 41.38 156.61 <b>100%</b> 55.17 208.81 44.61 89.23 133.84 178.46 55	<b>25%</b> 11.91 45.07 <b>50%</b> 23.82 90.15 <b>75%</b> 35.73 135.22 <b>100%</b> 55.17 208.81 40.47 80.95 121.42 161.90 55
<b>COOLING</b> Coolant capacity System - lit./gal. Engine - lit./gal. Radiator - lit./gal. Coolant flow/min. 60 Hz - lit./gal. 50 Hz - lit./gal. Heat rejection to coolant BTU/hr. Inlet air 60 Hz - m³/min. (cfm) 50 Hz - m³/min. (cfm) Ambient temperature °C (°F) Air on to RAD °C (°F) Max. external pressure drop on radiator in. H₂O	184 (48.6) 100 (26.4) 84 (22.2) 1100 (291) 1000 (264) 1,852,680 1380 (48728) 1140 (40253) 45 (113) 50 (122) 0.5	184 (48.6) 100 (26.4) 84 (22.2) 1100 (291) 1000 (264) 1,647,240 1380 (48728) 1140 (40253) 45 (113) 50 (122) 0.5
<b>COMBUSTION AIR REQUIREMENTS</b> Flow at rated power 60 Hz - m³/min. (cfm) 50 Hz - m³/min. (cfm)	74 (2613) 64 (2260)	66 (2330) 58 (2048)
<b>EXHAUST</b> Exhaust flow at rated output 60 Hz - m³/min. (cfm) 50 Hz - m³/min. (cfm) Maximum recommended back pressure Kpa (* Hg) Exhaust temperature at rated output °C (°F) Exhaust outlet size mm.	197 (6956) 168 (5932) 4.3 (1.3) 469 (876) 200	175 (6179) 153 (5402) 4.3 (1.3) 457 (856) 200
<b>ENGINE</b> Rated RPM 60 Hz 50 Hz HP at rated KW 60 Hz 50 Hz Piston speed 60 Hz - m/sec. (ft./min) 50 Hz - m/sec. (ft./min) BMEP 60 Hz - PSI 50 Hz - PSI	1800 1500 1135 970 9.6 (1890) 8 (1575) 242 255	1800 1500 980 380 9.6 (1890) 8 (1575) 216 232
<b>DERATION FACTORS</b> Temperature 5% for every 10°C above - C° 2.77% for every 10°F above - F° Altitude 1.1% for every 100 m above - m 3.5% for every 1000 ft. above - ft.	40 104 1500 5000	40 104 1500 5000

# STANDARD ENGINE & SAFETY FEATURES

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain
- Factory-Installed Cool Flow Radiator
- Closed Coolant System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation between unit base and structure
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Isochronous Governor
- Jacket water heater
- Flexible fuel lines (stainless steel braid)
- Secondary Fuel Filter

## CONTROL CONSOLE OPTIONS

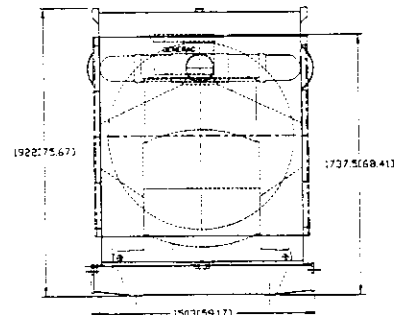
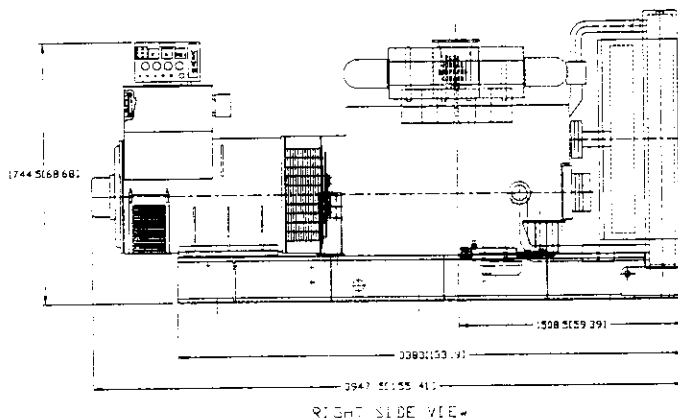
- **STANDARD "C" OPTION PANEL**
  - A leading control system standard in the power generation industry. (see Generac bulletin # SBY, 15116)
- **RAMPOWER 232 DIGITAL GENERATOR CONTROL PANEL**
  - Access to fully digital generator instrumentation via modem, a laptop computer or locally at the front control panel for tighter control of the power generator system. (see Generac bulletin # SBY, 15721)

## OPTIONS

- **OPTIONAL COOLING SYSTEM ACCESSORIES**
  - Radiator Duct Adapter
  - Optional coolant systems (consult factory)
  - High ambient radiator (50°C / 122 °F)
  - Low ambient radiator (40°C / 104 °F)
- **OPTIONAL FUEL ACCESSORIES**
  - Base Tank Low Fuel Alarm
  - Primary Fuel Filter
  - Primary Fuel Filter with Heater
  - Fuel tanks (single/double wall)
  - Electric fuel transfer pump system
- **OPTIONAL ELECTRICAL ACCESSORIES**
  - 10A Dual Rate Battery Charger
  - Battery, 24 Volt
  - Battery warmer
- **OPTIONAL ALTERNATOR ACCESSORIES**
  - Alternator Upsizing (consult factory)
  - Alternator Heater
  - Main Line Circuit Breaker
  - (factory installed up to 1200 Amp.)
  - 3 Phase sensing volt regulator (standard on PMG)
- **OPTIONAL EXHAUST ACCESSORIES**
  - Critical Exhaust Silencer
  - Residential Exhaust Silencer
  - Industrial Exhaust Silencer
- **ADDITIONAL OPTIONAL EQUIPMENT**
  - Automatic Transfer Switch (100 Amp - 2600 Amp)
  - Weather Protective Enclosure (Locking Type)
  - Sound Attenuating Outdoor Enclosure
  - 3 Light Remote Annunciator ("C" panel only)
  - 5 Light Remote Annunciator ("C" panel only)
  - 18 Light Remote Annunciator (all panels)
  - Unit Vibration Isolators (Spring)
  - Oil Make-Up System
  - Oil Heater
  - 5 Year Warranty (Basic/Extended)
  - Export Boxing

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Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



DRY WEIGHT: 12500 lbs.

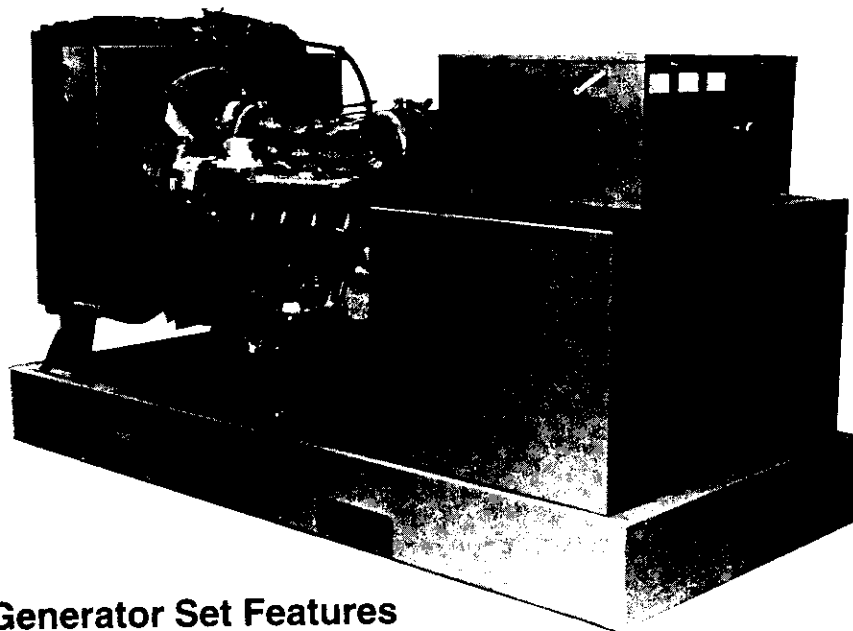
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# 15 DKAC 60 Hz 12.5 DKAC 50 Hz Diesel-Fueled Generator Set

	STANDBY	PRIME
60 Hz	15.0 kW 18.8 kVA	13.5 kW 16.9 kVA
50 Hz	12.5 kW 15.6 kVA	11.0 kW 13.8 kVA



## Generator Set Features

- Single-source design, manufacturing and testing of all set components and accessories by Onan Corporation.
- Accepts 100% of nameplate kW rating in one step, in compliance with NFPA 110, Paragraph 5-13.2.6.
- Engine torque-matched excitation system provides quick recovery from transient speed dips.
- Low reactance generator design offers low waveform distortion with non-linear loads and provides excellent motor starting capabilities.

## Standard Equipment

### ENGINE

Onan\* 4-cycle diesel engine.

### ALTERNATOR

Brushless Onan AC alternator provides broad range reconnectable output.

### CONTROL PANEL

Vibration isolated control with analog instrumentation.

### VOLTAGE REGULATOR

Electronic voltage regulator utilizes asynchronous power transistor operation that provides immunity from SCR loads.

### COOLING SYSTEM

High ambient 122° F (50° C) system.

### SKID BASE

Supports the alternator and engine. Battery rack and cooling system mount to the skid base. Integral vibration isolation. Forklift pockets for handling.

## Generator Set Testing



The Prototype Test Support (PTS) program is our commitment to verifying the integrity of our designs and products.

Before the generator sets are put into production, prototype models are subjected to demanding tests with typical/atypical loads and transients anticipated in service.

Production models earn the PTS seal only after meeting the performance criteria established by the program.

## Single-Source Warranty

All generator set components and systems are covered by a limited one-year warranty. Optional two and five-year extended programs are available.



Standard Models are CSA certified.



# Generator Set Performance

## Voltage Regulation

Under load from no load to 100% load will be within  $\pm 2\%$ .

## Random Voltage Variation

For constant loads, from no load to 100% load will not exceed  $\pm 1\%$  of its mean value.

## Frequency Regulation

Under varying loads from no load to 100% load: 5% (Isochronous with optional electronic governor).

## Random Frequency Variation

Will not exceed  $\pm 0.5\%$  of its mean value for constant loads from no load to full load.

## Electromagnetic Interference Attenuation

Meets requirements of most industrial and commercial applications.

## AC Waveform Total Harmonic Distortion

Less than 5% total no load to full linear load, and less than 3% for any single harmonic

## Telephone Influence Factor (TIF)

Less than 40 per NEMA MG1-22.43.

## Telephone Harmonic Factor (THF) Less than 3.

## Alternator Temperature Rise

At rated load is less than 125° C at standby rating, per NEMA MG1.22.40, IEEE115 and IEC 34-1.

## Radio Interference

Meets requirements of most industrial and commercial applications.

## Maximum Sound Level at 23 ft. (7m) full load:

60 Hz; 74 dBa

50 Hz; 73 dBa

---

## Engine: Onan\* D1703 3-cylinder, indirect injection diesel

**Design:** 4-cycle, water-cooled, natural aspiration.

**Bore:** 3.4" (87 mm) **Stroke:** 3.6" (93 mm).

**Piston Displacement:** 100 cubic inches (1.6 liters).

**Valves:** Two per cylinder, single springs.

**Crankshaft:** Forged steel, integral counterweight-type.

**Connecting Rods:** Forged steel with I-beam design.

**Compression Ratio:** 23:1.

**Starting:** 12-volt, negative ground.

**Cranking Current:** 350 amps at ambient temperature of 32° F (0° C).

**Battery Charging Alternator:** 40-amp.

**Cylinder Block:** Cast iron.

**Fuel System:** Indirect injection, Number 2 diesel fuel; Fuel filters; Fuel/water separator; Automatic electric fuel shutoff; Distributor injection pump with integral mechanical governor.

**Air Cleaner:** Heavy duty with restriction indicator.

**Lube Oil Capacity:** 7.4 US quarts (7.0 liters).

**Lube Oil Required:** API CD 10W-30.

**Lube Oil Filter:** Single spin-on, full flow.

**Cooling System:** High ambient 122° F (50° C) radiator.

*\* Built for Onan to exacting standards of quality and performance.*

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## Alternator: Onan

### Design:

Revolving field, single bearing, 4-pole, brushless, drip-proof construction. Standard 125° C temperature rise at standby power rating. Class H insulation system per NEMA MG1-1.65 and BS2757. The main alternator and exciter insulation systems are impregnated for operation in severe environments where sand, salt sea spray and chemical corrosion are installation factors.

### Stator:

Skewed stator and 2/3 pitch windings minimize field heating and voltage harmonics.

### Rotor:

Dynamically balanced assembly. Direct coupled to engine by a flexible drive disc. Complete amortisseur (damper) windings help minimize voltage deviations and heating effects under unbalanced loads. The rotor is supported by a pre-lubricated, maintenance-free ball bearing.

**Phase Rotation:** A (U), B (V), C (W)

**Alternator Cooling:** Direct drive centrifugal blower

### Torque-Matched Voltage Regulation:

The voltage regulator provides torque-matched underfrequency compensation to optimize motor starting performance and assist the engine during transient load conditions. Asynchronous power transistor operation provides immunity from SCR tracking when applied to non-linear loads. The brushless exciter armature powers the main alternator field winding through shaft-mounted, three-phase, full wave silicon diode rectifiers.

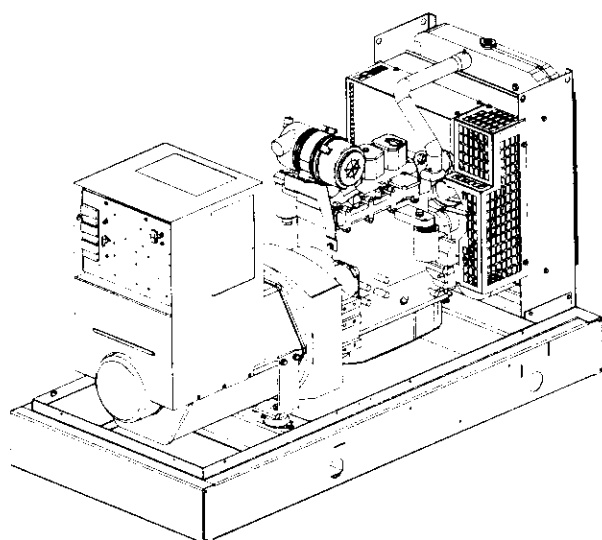
### Shunt Excitation:

The excitation system derives its power from the main output of the generator, eliminating the need for a separate excitation power source. This excitation system, combined with the Onan low reactance generator, comprise a system that provides sufficient short circuit current for selective clearing of instantaneous overcurrent devices.



# 35kW - 60kW 60 Hz 28kW - 50kW 50 Hz Diesel Fueled 4B Series

Model	Data Sheet	EPA-MOH	Standby kW (kVA)		Prime kW (kVA)	
			60 Hz	50 Hz	60 Hz	50 Hz
DGBB	D-3000	Standard	35 (44)	28 (35)	32 (40)	25 (31)
DGBC	D-3001	Standard	40 (50)	32 (40)	35 (44)	29 (36)
DGCA	D-3002	Standard	50 (63)	40 (50)	45 (56)	36 (45)
DGCB	D-3003	Standard	60 (75)	50 (63)	55 (69)	45 (56)



## Standard Genset Features

### LOW EXHAUST EMISSIONS

- Certified to United States Environmental Protection Agency Mobile Off Highway standards

### CUMMINS® HEAVY-DUTY ENGINE

- Rugged 4-cycle industrial diesel engine
- Excellent transient performance

### ALTERNATOR

- Low reactance 2/3 pitch
- Class H insulation
- Exceptional short circuit capability
- Low waveform distortion with non-linear loads
- Excellent motor starting capabilities

### ELECTRONIC VOLTAGE REGULATOR

- Precise regulation
- Underfrequency compensation
- Torque-matched system provides fast recovery from transient load changes

### FULL LOAD PICK-UP

- Gensets accept 100% of full nameplate standby rating in one step, in compliance with NFPA110, Paragraph 5-13.2.6.

### COOLING SYSTEM

- High ambient 122° F (50° C) system optional, 104° F (40° C) system standard

### SKID BASE

- Supports engine, alternator and radiator with integral vibration isolation

### E-COAT FINISH

- Dual electro-deposition coating system provides high resistance to scratching, corrosion and paint fading

### STANDARD CONTROL SYSTEM

- Run-Stop-Remote Switch
- Remote Starting, 12 Volt, 2 Wire
- Safety Shutdowns

### OPTIONAL CONTROL SYSTEMS

- Detector 12 Control NFPA 110 Compliant
- PowerCommand Advanced Digital Control

### SINGLE-SOURCE RESPONSIBILITY

- Design, manufacture and test of all major set components and accessories by Onan Corporation and affiliated companies.

### SINGLE-SOURCE WARRANTY

- All generator set components and systems are covered by an express written limited one-year warranty
- Optional extended warranty programs available

ISO 9001

PTS

The Prototype Test Support program verifies the performance integrity of the generator set design. Onan products bearing the PTS symbol meet the prototype test requirements of NFPA110 for Level 1 systems.

The PowerCommand Control is listed UL-508 - Category NITW7 for U.S. and Canadian usage.

CSA

All models are CSA certified to product class 4215-01.

## Generator Set Specifications

Voltage Regulation, no load to Full load:	±1.0%
Random Voltage Variation:	±1.0%
Frequency Regulation:	5.0%
Random Frequency Variation:	±0.5%
Radio Frequency Interference:	Optional PMG excitation operates in compliance with BS800 and VDE level G and N. Addition of RFI protection kit allows operation per MIL-STD- 461 and VDE level K

## Engine Specifications

Design:	4 cycle, water-cooled
Bore:	4.02"(102mm)
Stroke:	4.72"(120 mm)
Displacement:	239 cubic inches (3.9 liters)
Cylinder Block:	Cast iron
Cranking Current:	460 amps at ambient temperature of 32°F (0°C)
Battery Charging Alternator:	37 amps
Starting Voltage:	12 volt, negative ground
Fuel System:	Direct injection, number 2 diesel fuel; fuel filter; water separator; automatic electric fuel shutoff, fuel & aircleaner
Air Cleaner Type:	Two stage dry element with restriction indicator
Lube Oil Filter Type(s):	Single spin-on, full flow
Cooling System:	104°F (40°C) ambient radiator

## Alternator Specifications

Design:	Brushless, 1800 RPM (60 Hz), 1500 RPM (50 Hz), 4 pole, drip proof revolving field
Stator:	2/3 pitch
Rotor:	Direct coupled by flexible discs
Insulation System:	Class H per NEMA MG1-1.65
Temperature Rise:	150° C Standby
Exciter Type:	Shunt
Phase Rotation:	A (U), B (V), C (W)
Alternator Cooling:	Direct drive centrifugal blower
AC Waveform Total Harmonic Distortion:	<5% total no load to full linear load <3% for any single harmonic
Telephone Influence Factor(TIF):	<50 per NEMA MG1-22.43.
Telephone Harmonic Factor (THF):	<3

## Voltage Selections

60Hz, 3-Phase, Reconnectable	60Hz, 1-Phase, Non-Reconnectable	60Hz, 3-Phase, Non-Reconnectable	50Hz, 3-Phase, Reconnectable	50Hz, 1-Phase, Non-Reconnectable
<input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 139/240 <input type="checkbox"/> 120/240 <input type="checkbox"/> 240/416 <input type="checkbox"/> 254/440 <input type="checkbox"/> 227/480	<input type="checkbox"/> 120/240	<input type="checkbox"/> 220/380 <input type="checkbox"/> 347/600	<input type="checkbox"/> 110/190 <input type="checkbox"/> 115/200 <input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 100/200 <input type="checkbox"/> 110/220 <input type="checkbox"/> 220/380	<input type="checkbox"/> 230/400 <input type="checkbox"/> 240/415 <input type="checkbox"/> 254/440 <input type="checkbox"/> 115/230 <input type="checkbox"/> 120/240

## Generator Set Options

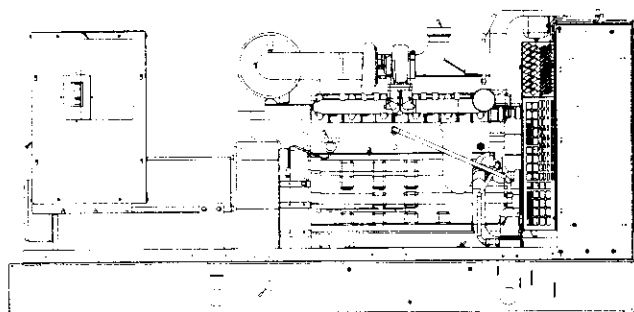
<b>Engine</b> <input type="checkbox"/> 120/240 Volt, 1000 watt coolant heaters <input type="checkbox"/> 120/240 Volt, 150 watt lube oil heater <input type="checkbox"/> Electronic governor  <b>Cooling System</b> <input type="checkbox"/> 125°F/50°C ambient cooling <input type="checkbox"/> Remote radiator cooling  <b>Fuel System</b> <input type="checkbox"/> 70 gal.(265 liter) dual wall sub-base tank <input type="checkbox"/> 140 gal.(530 liter) dual wall sub-base tank <input type="checkbox"/> 44 gal. (167 liter) in-skid fuel tank <input type="checkbox"/> 80 gal (300 liter) single wall sub-base fuel tank  <b>Alternator</b> <input type="checkbox"/> 105°C rise alternator <input type="checkbox"/> 125°C rise alternator <input type="checkbox"/> Anti-condensation heater <input type="checkbox"/> Extended stack (full single phase output) <input type="checkbox"/> PMG excitation	<b>Control Panel</b> <input type="checkbox"/> Control anti-condensation heater <input type="checkbox"/> CSA 282 compliance package <input type="checkbox"/> Detector 12 control <input type="checkbox"/> Emergency stop <input type="checkbox"/> Engine gauges <input type="checkbox"/> Low battery voltage warning <input type="checkbox"/> Low coolant level warning/shutdown <input type="checkbox"/> PowerCommand Control <input type="checkbox"/> Remote fault signal package <input type="checkbox"/> Remote speed adjust  <b>Exhaust System</b> <input type="checkbox"/> Genset mounted muffler <input type="checkbox"/> Slip on exhaust connection <input type="checkbox"/> Heavy duty exhaust elbow	<b>Generator Set</b> <input type="checkbox"/> AC entrance box <input type="checkbox"/> Batteries <input type="checkbox"/> Battery Charger <input type="checkbox"/> Export box packaging <input type="checkbox"/> Main line circuit breaker <input type="checkbox"/> PowerCommand Network <input type="checkbox"/> Quite Site Stage I housing w/silencer <input type="checkbox"/> Quite Site Stage II housing w/silencer <input type="checkbox"/> Remote annunciator panel <input type="checkbox"/> Spring isolators <input type="checkbox"/> Weather protective enclosure with silencer <input type="checkbox"/> 2 year prime power warranty* <input type="checkbox"/> 2 year standby warranty <input type="checkbox"/> 5 year basic power warranty
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\* Available in North America Only



**125kW - 200kW 60 Hz**  
**110kW - 176kW 50 Hz**  
**Diesel Fueled**  
**6C Series**

Model	Data Sheet	EPA-MOH	Standby kW (kVA)		Prime kW (kVA)	
			60 Hz	50 Hz	60 Hz	50 Hz
DGEA	D-3018	Standard	125 (156)	110 (138)	113 (141)	100 (125)
DGFA	D-3019	Optional	150 (188)	140 (175)	135 (169)	125 (156)
DGFB	D-3020	Optional	175 (219)	150 (188)	160 (200)	135 (169)
DGFC	D-3021	Not Available	200 (250)	176 (220)	180 (225)	160 (200)



## Standard Genset Features

### CUMMINS® HEAVY-DUTY ENGINE

- Rugged 4-cycle industrial diesel engine
- Excellent transient performance

### ALTERNATOR

- Low reactance 2/3 pitch
- Class H insulation
- Exceptional short circuit capability
- Low waveform distortion with non-linear loads
- Excellent motor starting capabilities

### ELECTRONIC VOLTAGE REGULATOR

- Precise regulation
- Underfrequency compensation
- Torque-matched system provides fast recovery from transient load changes

### FULL LOAD PICK-UP

- Gensets accept 100% of full nameplate standby rating in one step, in compliance with NFPA110, Paragraph 5-13.2.6.

### COOLING SYSTEM

- High ambient 122° F (50° C) system optional, 104° F (40° C) system standard

### SKID BASE

- Supports engine, alternator and radiator with integral vibration isolation

### E-COAT FINISH

- Dual electro-deposition coating system provides high resistance to scratching, corrosion and paint fading

### STANDARD CONTROL SYSTEM

- Run-Stop-Remote Switch
- Remote Starting, 12 Volt, 2 Wire
- Safety Shutdowns

### OPTIONAL CONTROL SYSTEMS



- Detector 12 Control NFPA 110 Compliant
- PowerCommand Advanced Digital Control

### SINGLE-SOURCE RESPONSIBILITY



- Design, manufacture and test of all major set components and accessories by Onan Corporation and affiliated companies.

### SINGLE-SOURCE WARRANTY


- All generator set components and systems are covered by an express written limited one-year warranty
- Optional extended warranty programs available

The Prototype Test Support program verifies the performance integrity of the generator set design. Onan products bearing the PTS symbol meet the prototype test requirements of NFPA110 for Level 1 systems.

The PowerCommand Control is listed UL-508 - Category NiTW7 for U.S. and Canadian usage.



All models are CSA certified to product class 4215-01.

## Generator Set Specifications

Voltage Regulation, no load to Full load:	±1.0%
Random Voltage Variation:	±1.0%
Frequency Regulation:	5.0%
Random Frequency Variation:	±0.5%
Radio Frequency Interference:	Optional PMG excitation operates in compliance with BS800 and VDE level G and N. Addition of RFI protection kit allows operation per MIL-STD- 461 and VDE level K

## Engine Specifications

Design:	4 cycle, water-cooled
Bore:	4.49" (114mm)
Stroke	5.32" (135 mm)
Displacement:	504 cubic inches (8.3 liters)
Cylinder Block:	Cast iron
Cranking Current:	460 amps at ambient temperature of 32°F (0°C)
Battery Charging Alternator:	37 amps
Starting Voltage:	12 volt, negative ground
Fuel System:	Direct injection, number 2 diesel fuel; fuel filters; water separator; automatic electric fuel shutoff
Air Cleaner Type:	Dry element with restriction indicator
Lube Oil Filter Type(s):	2 stage single spin-on, combination full flow with bypass
Cooling System:	104°F (40°C) ambient radiator

## Alternator Specifications

Design:	Brushless, 1800 RPM (60 Hz), 1500 RPM (50 Hz), 4 pole, drip proof revolving field
Stator:	2/3 pitch
Rotor:	Direct coupled by flexible discs
Insulation System:	Class H per NEMA MG1-1.65
Temperature Rise:	150° C Standby
Exciter Type:	Shunt
Phase Rotation:	A (U), B (V), C (W)
Alternator Cooling:	Direct drive centrifugal blower
AC Waveform Total Harmonic Distortion:	<5% total no load to full linear load <3% for any single harmonic
Telephone Influence Factor (TIF):	<50 per NEMA MG1-22.43.
Telephone Harmonic Factor (THF):	<3

## Voltage Selections

60Hz, 3-Phase, Reconnectable	60Hz, 1-Phase, Non-Reconnectable	60Hz, 3-Phase, Non-Reconnectable	50Hz, 3-Phase, Reconnectable	50Hz, 1-Phase, Non-Reconnectable
<input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 139/240 <input type="checkbox"/> 120/240 <input type="checkbox"/> 240/416 <input type="checkbox"/> 254/440 <input type="checkbox"/> 227/480	<input type="checkbox"/> 120/240	<input type="checkbox"/> 220/380 <input type="checkbox"/> 347/600	<input type="checkbox"/> 110/190 <input type="checkbox"/> 115/220 <input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 100/200 <input type="checkbox"/> 110/220 <input type="checkbox"/> 220/380	<input type="checkbox"/> 100/200 <input type="checkbox"/> 110/220 <input type="checkbox"/> 115/230 <input type="checkbox"/> 120/240

## Generator Set Options

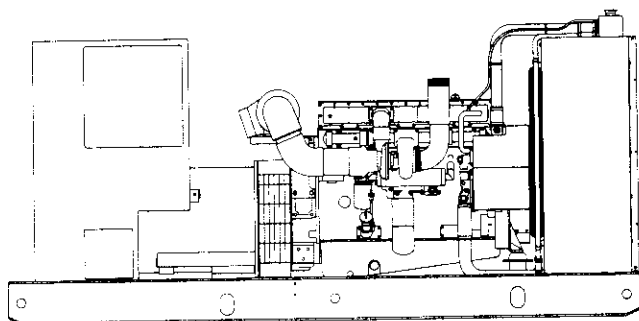
<b>Engine</b> <input type="checkbox"/> 120/240 Volt, 1500 watt coolant heaters <input type="checkbox"/> 120/240 Volt, 150 watt lube oil heater <input type="checkbox"/> Electronic governor <input type="checkbox"/> EPA Mobile off highway exhaust emission certification <b>Cooling System</b> <input type="checkbox"/> 125°F/50°C ambient cooling <input type="checkbox"/> Remote radiator cooling <b>Fuel System</b> <input type="checkbox"/> 109 gal.(413 liter) dual wall sub-base tank <input type="checkbox"/> 173 gal.(655 liter) dual wall sub-base tank <input type="checkbox"/> 336 gal. (1271 liter) dual wall sub-base tank <input type="checkbox"/> 125 gal. (473 liter) single wall sub-base tank <b>Alternator</b> <input type="checkbox"/> 105°C rise alternator <input type="checkbox"/> 125°C rise alternator <input type="checkbox"/> Anti-condensation heater <input type="checkbox"/> Extended stack(full single phase output some models) <input type="checkbox"/> PMG excitation	<b>Control Panel</b> <input type="checkbox"/> Control anti-condensation heater <input type="checkbox"/> CSA 282 compliance package <input type="checkbox"/> Detector 12 control <input type="checkbox"/> Emergency stop <input type="checkbox"/> Engine gauges <input type="checkbox"/> Low battery voltage warning <input type="checkbox"/> Low coolant level warning/shutdown <input type="checkbox"/> PowerCommand Control <input type="checkbox"/> Remote fault signal package <input type="checkbox"/> Remote speed adjust <b>Exhaust System</b> <input type="checkbox"/> Genset mounted muffler <input type="checkbox"/> Heavy duty exhaust elbow <input type="checkbox"/> Slip on exhaust connection	<b>Generator Set</b> <input type="checkbox"/> AC entrance box <input type="checkbox"/> Batteries <input type="checkbox"/> Battery Charger <input type="checkbox"/> Export box packaging <input type="checkbox"/> Main line circuit breaker <input type="checkbox"/> PowerCommand Network <input type="checkbox"/> Quite Site Stage I housing w/silencer <input type="checkbox"/> Quite Site Stage II housing w/silencer <input type="checkbox"/> Remote annunciator panel <input type="checkbox"/> Spring isolators <input type="checkbox"/> Weather protective enclosure with silencer <input type="checkbox"/> 2 year prime power warranty* <input type="checkbox"/> 2 year standby warranty <input type="checkbox"/> 5 year basic power warranty
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\* Available in North America Only



## 200kW - 250kW 60Hz Diesel Fueled MII Series

Model	Data Sheet	Standby kW (kVA)		Prime kW (kVA)	
		60 Hz	50 Hz	60 Hz	50 Hz
DQAA	D3007	200/250		180/225	
DQAB	D3008	250/313		225/281	



### Standard Genset Features

#### LOW EXHAUST EMISSIONS

- Certified to United States Environmental Protection Agency Mobile off Highway standards

#### CUMMINS® HEAVY-DUTY ENGINE

- Rugged 4-cycle industrial diesel engine
- Excellent transient performance

#### ALTERNATOR

- Low reactance 2/3 pitch
- Class H insulation
- Exceptional short circuit capability
- Low voltage distortion with non-linear loads

#### PERMANENT MAGNET GENERATOR (PMG)

- Enhanced motor starting
- Sustained short circuit current
- Excitation system isolated from non-linear loads

#### FULL LOAD PICK-UP

- PowerCommand™ Gensets accept 100% of full nameplate standby rating in one step, in compliance with NFPA110

#### SINGLE-SOURCE RESPONSIBILITY

- Design, manufacture and test of all major set components and accessories by Onan Corporation and affiliated companies

#### SINGLE-SOURCE WARRANTY

- All generator set components and systems are covered by an express limited one-year warranty
- Optional extended warranty programs available

### PowerCommand System Control Features

#### INTEGRATED CONTROL SYSTEM

- Microprocessor control system
- Reliable and optimum genset performance
- Integrated governor and voltage regulation system

#### ALARM AND STATUS MESSAGE DISPLAY

- Information on all critical parameters of the genset.

#### AMPSENTRY™ PROTECTION

- Power management system that guards the electrical integrity of the alternator and power system from the effects of overcurrent, over/under voltage, under frequency and overload conditions

#### BATTERY MONITORING SYSTEM

- Battery load test each time the engine is started
- Alarm for weak battery condition
- Monitors the battery system for low and high voltage

#### AC OUTPUT METERING

- True RMS digital metering
- Analog metering indication of operating trends

#### GENSET MONITORING

- Monitors status of all engine and alternator functions
- Digitally displays status of all engine and alternator functions
- Monitors and detects engine sender failures

#### UL508 LISTED CONTROL PANEL

- Single-membrane panel and gasketed enclosure
- RFI/EMI and surge tested and approved

#### SMART STARTING CONTROL SYSTEM

- Multi-functional digital control system integrates fuel ramping and field excitation to minimize frequency and voltage overshoot and limit black smoke

#### OPTIONAL POWERCOMMAND DIGITAL PARALLELING CONTROL

- The PowerCommand Control can be equipped to provide digital paralleling controls for synchronizing and load sharing on-set.

The Prototype Test Support program verifies the performance integrity of the generator set design. Onan products bearing the PTS symbol meet the prototype test requirements of NFPA110 for Level 1 systems.

The PowerCommand Control is listed UL-508 - Category NIWT7 for U.S. and Canadian usage.

All models are CSA certified to product class 4215-01.

## Generator Set Specifications

Voltage Regulation, no load to Full load:	±0.5%
Random Voltage Variation:	±0.5%
Frequency Regulation:	Isochronous
Random Frequency Variation:	±0.25%
Radio Frequency Interference:	IEC 801.2, Level 4 Electrostatic Discharge IEC 801.3, Level 3 Radiated Susceptibility IEC 801.4, Level 4 Electrical Fast Transients IEC 801.5, Level 5 Voltage Surge Immunity MIL STD 461C, Part 9 Radiated Emissions(EMI)

## Engine Specifications

Design:	4 cycle, water-cooled
Bore:	4.92" (125mm)
Stroke:	5.79" (147 mm)
Displacement:	661 cubic inches (10.8 liters)
Cylinder Block:	Cast iron
Cranking Current:	550 amps at ambient temperature of 32°F (0°C)
Battery Charging Alternator:	45 amps
Starting Voltage:	24 volt, negative ground
Fuel System:	Direct injection, number 2 diesel fuel; fuel filters; automatic electric fuel shutoff.
Air Cleaner Type:	Dry element with restriction indicator
Lube Oil Filter Type(s):	Single spin-on, two full flow/bypass
Cooling System:	122°F (50°C) ambient radiator

## Alternator Specifications

Design:	Brushless, 4 pole, drip proof revolving field
Stator:	2/3 pitch
Rotor:	Direct coupled by flexible disc
Insulation System:	Class H per NEMA MG1-1.65
Temperature Rise:	125° C Standby, 105°C @ Prime
Exciter Type:	Permanent Magnet Generator (PMG)
Phase Rotation:	A (U), B (V), C (W)
Alternator Cooling:	Direct drive centrifugal blower
AC Waveform Total Harmonic Distortion:	<5% total no load to full linear load <3% for any single harmonic
Telephone Influence Factor(TIF):	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF):	<3

## Voltage Selections

60Hz, 3-Phase, Reconnectable	60Hz, 1-Phase, Non-Reconnectable	60Hz, 3-Phase, Non-Reconnectable	50Hz, 3-Phase, Reconnectable	50Hz, 1-Phase, Non-Reconnectable
<input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 139/240 <input type="checkbox"/> 120/240 <input type="checkbox"/> 240/415 <input type="checkbox"/> 254/440 <input type="checkbox"/> 277/480	<input type="checkbox"/> 120/240	<input type="checkbox"/> 220/280 <input type="checkbox"/> 347/600		

Note: Some voltages may not be available on all models.

## Generator Set Options

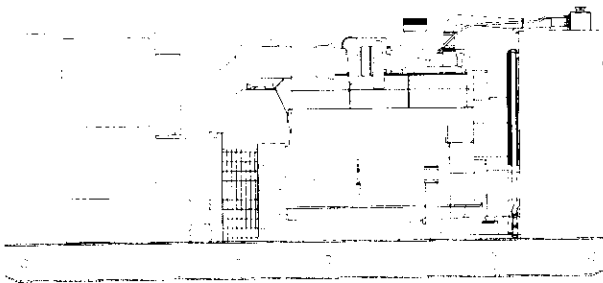
<b>Engine</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Fuel/Water separator</li><li><input type="checkbox"/> Heavy duty air cleaner with safety element</li><li><input type="checkbox"/> 208/240/480 Volt 2500 W coolant heaters</li></ul> <b>Cooling System</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Heat exchanger cooling</li><li><input type="checkbox"/> Remote radiator cooling</li></ul> <b>Alternator</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Anti-condensation heater</li><li><input type="checkbox"/> 80°C rise alternator</li><li><input type="checkbox"/> 105°C rise alternator</li></ul>	<b>Control Panel</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Control anti-condensation heater</li><li><input type="checkbox"/> Exhaust Pyrometer</li><li><input type="checkbox"/> Ground fault indication</li><li><input type="checkbox"/> Remote fault signal package</li><li><input type="checkbox"/> Run relay package</li></ul> <b>Exhaust System</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Critical grade exhaust silencer</li><li><input type="checkbox"/> Exhaust packages</li><li><input type="checkbox"/> Industrial grade exhaust silencer</li><li><input type="checkbox"/> Residential grade exhaust silencer</li></ul> <b>Fuel System</b> <ul style="list-style-type: none"><li><input type="checkbox"/> 138 gallon (522 liter) sub-based tank</li><li><input type="checkbox"/> 484 gallon (1832 liter) sub-based tank</li><li><input type="checkbox"/> 19 gallon (72 liter) in-skid day tank</li></ul>	<b>Miscellaneous</b> <ul style="list-style-type: none"><li><input type="checkbox"/> AC entrance box</li><li><input type="checkbox"/> Batteries</li><li><input type="checkbox"/> Battery Charger</li><li><input type="checkbox"/> Export box packaging</li><li><input type="checkbox"/> Isolation pads</li><li><input type="checkbox"/> Main line circuit breaker</li><li><input type="checkbox"/> Paralleling accessories</li><li><input type="checkbox"/> PowerCommand Network</li><li><input type="checkbox"/> Remote annunciator panel</li><li><input type="checkbox"/> Spring isolators</li><li><input type="checkbox"/> 2 year prime power warranty*</li><li><input type="checkbox"/> 2 year standby warranty</li><li><input type="checkbox"/> 5 year basic power warranty</li><li><input type="checkbox"/> 10 year major components warranty*</li></ul>
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\* Available in North America Only



# 275kW - 400kW 60Hz 250kW - 310kW 50Hz Diesel Fueled NT855 Series

Model	Data Sheet	Standby kW (kVA)		Prime kW (kVA)	
		60 Hz	50 Hz	60 Hz	50 Hz
DFBF	D3009	275/344	250/313	250/313	227/284
DFCB	D3010	300/375	275/344	270/338	250/313
DFCC	D3011	350/438	310/388	315/394	282/353
DFCE	D3012	400/500			



## Standard Genset Features

### CUMMINS® HEAVY-DUTY ENGINE

- Rugged 4-cycle industrial diesel engine
- Excellent transient performance

### ALTERNATOR

- Low reactance 2/3 pitch
- Class H insulation
- Exceptional short circuit capability
- Low voltage distortion with non-linear loads

### PERMANENT MAGNET GENERATOR (PMG)

- Enhanced motor starting
- Sustained short circuit current
- Excitation system isolated from non-linear loads

### FULL LOAD PICK-UP

- PowerCommand™ Gensets accept 100% of full nameplate standby rating in one step, in compliance with NFPA110

### SINGLE-SOURCE RESPONSIBILITY

- Design, manufacture and test of all major set components and accessories by Onan Corporation and affiliated companies

### SINGLE-SOURCE WARRANTY

- All generator set components and systems are covered by an express limited one-year warranty
- Optional extended warranty programs available

## PowerCommand System Control Features

### INTEGRATED CONTROL SYSTEM

- Microprocessor control system
- Reliable and optimum genset performance
- Integrated governor and voltage regulation system

### ALARM AND STATUS MESSAGE DISPLAY

- Information on all critical parameters of the genset.

### AMPSENTRY™ PROTECTION

- Power management system that guards the electrical integrity of the alternator and power system from the effects of overcurrent, over/under voltage, under frequency and overload conditions

### BATTERY MONITORING SYSTEM

- Battery load test each time the engine is started
- Alarm for weak battery condition
- Monitors the battery system for low and high voltage

### AC OUTPUT METERING

- True RMS digital metering
- Analog metering indication of operating trends

### GENSET MONITORING

- Monitors status of all engine and alternator functions
- Digitally displays status of all engine and alternator functions
- Monitors and detects engine sender failures

### UL508 LISTED CONTROL PANEL



- Single-membrane panel and gasketed enclosure
- RFI/EMI and surge tested and approved

### SMART STARTING CONTROL SYSTEM



- Multi-functional digital control system integrates fuel ramping and field excitation to minimize frequency and voltage overshoot and limit black smoke

### OPTIONAL POWERCOMMAND DIGITAL PARALLELING CONTROL


- The PowerCommand Control can be equipped to provide digital paralleling controls for synchronizing and load sharing on-set.

The Prototype Test Support program verifies the performance integrity of the generator set design. Onan products bearing the PTS symbol meet the prototype test requirements of NFPA110 for Level 1 systems.

The PowerCommand Control is listed UL-508 - Category NIWT7 for U.S. and Canadian usage.



All models are CSA certified to product class 4215-01.



## Generator Set Specifications

Voltage Regulation, no load to Full load:	±0.5%
Random Voltage Variation:	±0.5%
Frequency Regulation:	Isochronous
Random Frequency Variation:	±0.25%
Radio Frequency Interference:	IEC 801.2, Level 4 Electrostatic Discharge IEC 801.3, Level 3 Radiated Susceptibility IEC 801.4, Level 4 Electrical Fast Transients IEC 801.5, Level 5 Voltage Surge Immunity MIL STD 461C, Part 9 Radiated Emissions(EMI) 60 Hz: 93 dBA 50 Hz : 91 dBA

## Engine Specifications

Design:	4 cycle, water-cooled
Bore:	5.0" (140mm)
Stroke	6.0" (152 mm)
Displacement:	855 cubic inches (14 liters)
Cylinder Block:	Cast iron
Cranking Current:	565 amps at ambient temperature of 32°F (0°C)
Battery Charging Alternator:	45 amps
Starting Voltage:	24 volt, negative ground
Fuel System:	Direct injection, number 2 diesel fuel; fuel filters; automatic electric fuel shutoff.
Air Cleaner Type:	Dry element with restriction indicator
Lube Oil Filter Type(s):	single spin-on, two full flow/bypass
Cooling System:	122°F (50°C) ambient radiator

## Alternator Specifications

Design:	Brushless, 4 pole, drip proof revolving field
Stator:	2/3 pitch
Rotor:	Direct coupled by flexible disc
Insulation System:	Class H per NEMA MG1-1.65
Temperature Rise:	125° C @ Standby, 105°C @ Prime
Regulator:	Integral in PowerCommand Control system
Exciter Type:	Permanent Magnet Generator (PGM)
Phase Rotation:	A (U), B (V), C (W)
Alternator Cooling:	Direct drive centrifugal blower
AC Waveform Total Harmonic Distortion:	<5% total no load to full linear load <3% for any single harmonic
Telephone Influence Factor(TIF):	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF):	<3

## Voltage Selections

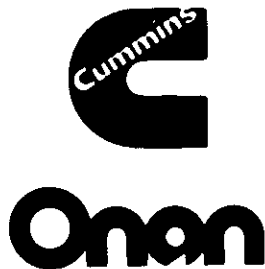
60Hz, 3-Phase, Reconnectable	60Hz, 1-Phase, Non-Reconnectable	60Hz, 3-Phase, Non-Reconnectable	50Hz, 3-Phase, Reconnectable	50Hz, 1-Phase, Non-Reconnectable
<input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 139/240 <input type="checkbox"/> 120/240 <input type="checkbox"/> 240/415 <input type="checkbox"/> 254/440 <input type="checkbox"/> 277/480	<input type="checkbox"/> 120/240	<input type="checkbox"/> 240/380 <input type="checkbox"/> 347/600	<input type="checkbox"/> 110/190 <input type="checkbox"/> 115/200 <input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 100/200 <input type="checkbox"/> 110/220 <input type="checkbox"/> 220/380	<input type="checkbox"/> 230/400 <input type="checkbox"/> 240/415 <input type="checkbox"/> 254/440 <input type="checkbox"/> 115/230 <input type="checkbox"/> 120/240
				<input type="checkbox"/> 100/200 <input type="checkbox"/> 110/220 <input type="checkbox"/> 115/230 <input type="checkbox"/> 120/240

Note: Some voltages may not be available on all models.

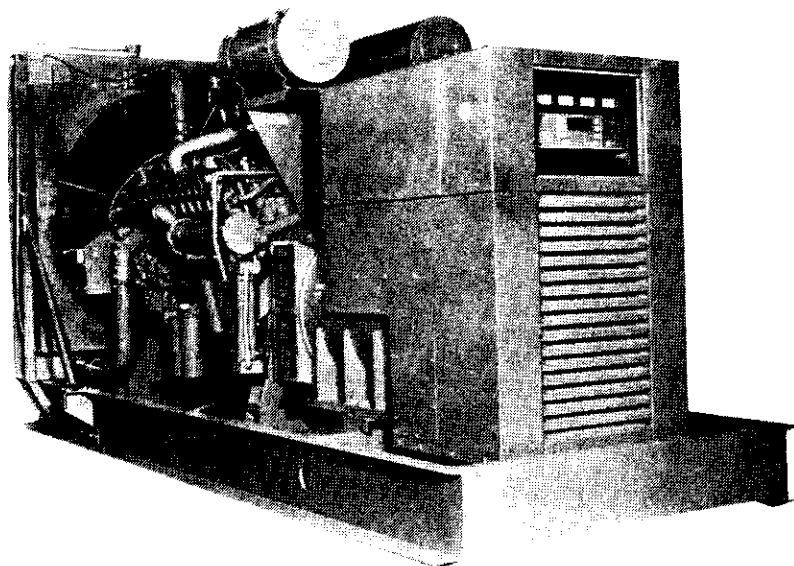
## Generator Set Options

<b>Engine</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Fuel/Water separator</li><li><input type="checkbox"/> Heavy duty air cleaner with safety element</li><li><input type="checkbox"/> 208/240/480 Volt 2500W coolant heaters</li><li><input type="checkbox"/> 75 Amp Battery Charge Alternator</li></ul> <b>Cooling System</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Heat exchanger cooling (except DFCE)</li><li><input type="checkbox"/> Remote radiator cooling (except DFCE)</li></ul> <b>Alternator</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Anti-condensation heater</li><li><input type="checkbox"/> 80°C rise alternator</li><li><input type="checkbox"/> 105°C rise alternator</li></ul>	<b>Control Panel</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Control anti-condensation heater</li><li><input type="checkbox"/> Exhaust Pyrometer</li><li><input type="checkbox"/> Ground fault indication</li><li><input type="checkbox"/> Remote fault signal package</li><li><input type="checkbox"/> Run relay package</li></ul> <b>Exhaust System</b> <ul style="list-style-type: none"><li><input type="checkbox"/> Critical grade exhaust silencer</li><li><input type="checkbox"/> Exhaust packages</li><li><input type="checkbox"/> Industrial grade exhaust silencer</li><li><input type="checkbox"/> Residential grade exhaust silencer</li></ul> <b>Fuel System</b> <ul style="list-style-type: none"><li><input type="checkbox"/> 154 gallon (583 liter) sub-based tank</li><li><input type="checkbox"/> 520 gallon (1968 liter) sub-based tank</li><li><input type="checkbox"/> 27 gallon (103 liter) in-skid day tank</li></ul>	<b>Miscellaneous</b> <ul style="list-style-type: none"><li><input type="checkbox"/> AC entrance</li><li><input type="checkbox"/> Batteries</li><li><input type="checkbox"/> Battery Charger</li><li><input type="checkbox"/> Export box packaging</li><li><input type="checkbox"/> Isolation pads</li><li><input type="checkbox"/> Main line circuit breaker</li><li><input type="checkbox"/> Paralleling accessories</li><li><input type="checkbox"/> PowerCommand Network</li><li><input type="checkbox"/> Remote annunciator panel</li><li><input type="checkbox"/> Spring isolators</li><li><input type="checkbox"/> 2 year prime power warranty</li><li><input type="checkbox"/> 2 year standby warranty</li><li><input type="checkbox"/> 5 year basic power warranty</li><li><input type="checkbox"/> 10 year major components warranty</li></ul>
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\* Available in North America Only



# PowerCommand™ Diesel GenSet 600 DFGB 60 Hz 550 DFGB 50 Hz



	STANDBY	PRIME
60 Hz	600 kW 750 kVA	545 kW 681 kVA
50 Hz	550 kW 688 kVA	500 kW 625 kVA



The Prototype Test Support program verifies the performance integrity of the PowerCommand GenSet design. Onan products bearing the PTS symbol meet the prototype test requirements of NFPA110 for Level 1 systems.



The PowerCommand Control is listed UL-508 – Category NIWT7 for U.S. and Canadian usage.



All models are CSA certified to product class 4215-01.

## Generator Set Features

### CUMMINS® HEAVY-DUTY ENGINE

Rugged 4-cycle industrial diesel engine for reliable power production and excellent transient performance.

### ALTERNATOR

- Low reactance, 2/3 pitch, Class H insulation, for superior motor starting, exceptional short circuit capability and minimizes voltage distortion when powering non-linear loads.

### PERMANENT MAGNET GENERATOR (PMG)

- Reliable excitation power source to enhance motor starting, sustain short circuit current and isolate the excitation system from non-linear loads.

### HIGH AMBIENT COOLING SYSTEM

- Full rated output in ambient conditions up to 50° C (122° F).

### FULL LOAD PICK-UP

- All PowerCommand GenSets accept 100% of full nameplate standby rating in one step, in compliance with NFPA110.

### E-COAT FINISH

- Dual electro-deposition coating system provides high resistance to scratching, corrosion and paint fading.

## PowerCommand™ Control Features

### INTEGRATED CONTROL SYSTEM

- A microprocessor-based genset monitoring, metering, and control system offers an advanced level of functions for reliability and optimum genset performance.
- An extensive array of standard control and digital display features that eliminate the need for discrete component devices such as a voltage regulator, governor and protective relays.

### ALARM AND STATUS MESSAGE DISPLAY

- Provides detailed information on all critical parameters of the generator set.

## AMPSENTRY™ PROTECTION

- A power management system that guards the electrical integrity of the alternator and power system from the effects of overcurrent, over/under voltage, over/under frequency and overload conditions.

## BATTERY MONITORING SYSTEM

- The PowerCommand Control runs a battery load test every time the engine is required to start. It detects and sends an alarm for weak battery conditions and continually monitors the battery charging system for low and high voltage.

## AC OUTPUT METERING

- Combines true RMS digital metering and analog metering to provide accurate digital readout plus instant analog indication of trends and operating characteristics.

## GENSET MONITORING

- Monitors and digitally displays status of all engine and alternator functions critical to reliable generator set performance. Monitors and detects engine sender failures.

## UL508 LISTED CONTROL PANEL

- The single-membrane panel and gasketed enclosure protect the internal components from airborne contaminants. The control is RFI/EMI and successfully surge tested and certified.

## SMART STARTING CONTROL SYSTEM

- A multi-functional digital control system integrates fuel ramping and field excitation to minimize frequency and voltage overshoot and limit black smoke.

## OPTIONAL POWERCOMMAND NETWORK COMMUNICATIONS

- The PowerCommand Control can be equipped to communicate over an Onan® Echelon™ LonWorks™ communication network for local or remote monitoring and control of the entire on-site power system.

## Generator Set Performance

### Voltage Regulation

Under load from no load to 100% load will be within  $\pm 0.5\%$ .

### Random Voltage Variation

For constant loads, from no load to 100% load will not exceed  $\pm 0.5\%$  of its mean value.

### Frequency Regulation

Isochronous under varying loads from no load to 100% load.

### Random Frequency Variation

Will not exceed  $\pm 0.25\%$  of its mean value for constant loads from no load to full load.

### Electromagnetic Interference Attenuation

Meets requirements of most industrial and commercial applications.

### AC Waveform Total Harmonic Distortion

Less than 5% total no load to full linear load, and less than 3% for any single harmonic.

### Telephone Influence Factor (TIF)

Less than 50 per NEMA MG1-22.43.

### Alternator Temperature Rise

At rated load is less than 105° C at prime power rating and less than 125° C at standby rating, per NEMA MG1.22.40, IEEE115 and IEC 34-1.

### Radio Frequency Interference

Noise and Surge Immunity: Prototype test compliance verification of PowerCommand Generator Set to IEC 801.2, Level 4 for electrostatic discharge; IEC 801.3, Level 3 for radiated susceptibility; IEC 801.4, Level 4 for electrically fast transients; IEC 801.5 Level 5 for voltage surge immunity; and MIL STD 461C, Part 9 for radiated emissions (EMI).

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## Engine: Cummins VTA28-G5 V-12, direct injection diesel\*

**Design:** 4-cycle, water-cooled, turbocharged and aftercooled.

**Bore:** 5.5" (140 mm) **Stroke:** 6" (152 mm).

**Piston Displacement:** 1710 cubic inches (28 liters).

**Valves:** Four per cylinder, single springs.

**Crankshaft:** Forged steel, integral counterweight-type.

**Connecting Rods:** Forged steel with I-beam design.

**Compression Ratio:** 13.1:1.

**Starting:** 24-volt, negative ground.

**Cranking Current:** 660 amps at ambient temperature of 32° F (0° C).

**Battery Charging Alternator:** 45-amp.

**Cylinder Block:** Cast iron with replaceable wet liners

**Fuel System:** Direct injection, Number 2 diesel fuel; Fuel filters; Automatic electric fuel shutoff; Cummins PT fuel injection system with integral EFC governor.

**Air Cleaner:** Dry-element with restriction indicator.

**Lube Oil Capacity:** 89 US quarts (84 liters).

**Lube Oil Required:** API CD 15W-40.

**Cooling System:** High ambient 122° F (50° C) radiator.

\*The VTA28-G5 engine uses different hardware for 50 Hz and 60 Hz operation. Specify frequency at time of order.

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## Alternator: Onan

### Design:

Revolving field, single bearing, 4-pole, brushless, drip-proof construction. Standard 125° C temperature rise at standby power rating. Class H insulation system per NEMA MG1-1.65 and BS2757. The main alternator and exciter insulation systems are impregnated for operation in severe environments where sand, salt sea spray and chemical corrosion are installation factors.

### Stator:

Skewed stator and 2/3 pitch windings minimize field heating and voltage harmonics.

### Rotor:

Dynamically balanced assembly. Direct coupled to engine by a flexible drive disc. Complete amortisseur (damper) windings help minimize voltage deviations and heating effects under unbalanced loads. The rotor is supported by a pre-lubricated, maintenance-free ball bearing.

### Torque-Matched Voltage Regulation:

The voltage regulator provides torque-matched underfrequency compensation to optimize motor starting performance and assist the engine during transient load conditions. The brushless exciter armature powers the main alternator field winding through shaft-mounted, three-phase, full wave silicon diode rectifiers. Semi-conductor surge suppressors protect the diodes from transient overvoltages induced by load surges.

### PMG (Permanent Magnet Generator):

Provides more power for motor starting. Sustains short circuit current at approximately 300% for not more than 10 seconds on either single- or three-phase faults. Isolates the excitation system from non-linear load distortion effects.

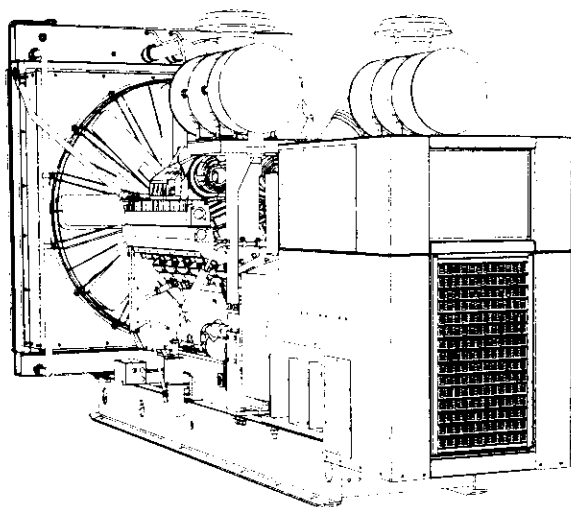
**Phase Rotation:** A (U), B (V), C (W)

**Alternator Cooling:** Direct drive centrifugal blower



# 750kW - 900kW 60 Hz 620kW - 800kW 50 Hz Diesel Fueled QST30 Series

Model	Data Sheet	Standby kW (kVA)		Prime kW (kVA)	
		60 Hz	50 Hz	60 Hz	50 Hz
DFHA	D-3004	750 (938)	620 (775)	680 (850)	560 (700)
DFHB	D-3005	800 (1000)	700 (875)	725 (906)	640 (800)
DFHC	D-3006	900 (1125)	800 (1000)	818 (1023)	725 (906)



## Standard Genset Features

### CUMMINS® HEAVY-DUTY ENGINE

- Rugged 4-cycle industrial diesel engine
- Electronic governing for optimal steady state and transient performance

### ALTERNATOR

- Low reactance 2/3 pitch
- Class H insulation
- Sustaining short circuit capability
- Low voltage distortion with non-linear loads

### PERMANENT MAGNET GENERATOR (PMG)

- Enhanced motor starting
- Sustained short circuit current
- Excitation system isolated from non-linear loads

### FULL LOAD PICK-UP

- PowerCommand® Gensets accept 100% of full nameplate standby rating in one step, in compliance with NFPA110

### SINGLE-SOURCE RESPONSIBILITY

- Design, manufacture and test of all major set components and accessories by Onan Corporation and affiliated companies

### SINGLE-SOURCE WARRANTY

- All generator set components and systems are covered by an express limited one-year warranty. See distributor/dealer for details
- Optional extended warranty programs available

## PowerCommand System Control Features

### INTEGRATED CONTROL SYSTEM

- Microprocessor control system
- Reliable and optimum genset performance
- Integrated governor and voltage regulation system

### ALARM AND STATUS MESSAGE DISPLAY

- Information on all critical parameters of the genset.

### AMPSENTRY™ PROTECTION

- Power management system that guards the electrical integrity of the alternator and power system from the effects of overcurrent, over/under voltage, under frequency and overload conditions

### BATTERY MONITORING SYSTEM

- Battery load test each time the engine is started
- Alarm for weak battery condition
- Monitors the battery system for low and high voltage

### AC OUTPUT METERING

- RMS digital metering
- Analog metering indication of operating trends

### GENSET MONITORING

- Monitors status of all engine and alternator functions
- Digitally displays status of all engine and alternator functions
- Monitors and detects engine sensor failures

### UL508 LISTED CONTROL PANEL

- Single-membrane panel and gasketed enclosure
- RFI/EMI and surge tested and approved

### SMART STARTING CONTROL SYSTEM

- Multi-functional digital control system integrates fuel ramping and field excitation to minimize frequency and voltage overshoot and limit black smoke

### OPTIONAL POWERCOMMAND DIGITAL PARALLELING CONTROL

- The PowerCommand Control can be equipped to provide digital paralleling controls for synchronizing and load sharing on-set.

The Prototype Test Support program verifies the performance integrity of the generator set design. Onan products bearing the PTS symbol meet the prototype test requirements of NFPA110 for Level 1 systems.

The PowerCommand Control is listed UL-508 - Category NITW7 for U.S. and Canadian usage.

All models are CSA certified to product class 4215-01.

## Generator Set Specifications

Voltage Regulation, no load to Full load:	±0.5%
Random Voltage Variation:	±0.5%
Frequency Regulation:	Isochronous
Random Frequency Variation:	±0.25%
Radio Frequency Interference:	IEC 801.2, Level 4 Electrostatic Discharge IEC 801.3, Level 3 Radiated Susceptibility IEC 801.4, Level 4 Electrical Fast Transients IEC 801.5, Level 5 Voltage Surge Immunity MIL STD 461C, Part 9 Radiated Emissions(EMI)

## Engine Specifications

Design:	4 cycle, water-cooled
Bore:	5.51"(140mm)
Stroke	6.50"(165mm)
Displacement:	1860 cubic inches (30 liters)
Cylinder Block:	Cast iron
Cranking Current:	1280 amps at ambient temperature of 32°F (0°C)
Battery Charging Alternator:	35 amps
Starting Voltage:	24 volt, negative ground
Fuel System:	Direct injection, number 2 diesel fuel; fuel filters; automatic electric fuel shutoff
Air Cleaner Type:	Dry element with restriction indicator
Lube Oil Filter Type(s):	Four spin-on, full flow; two by-pass oil filters
Cooling System:	104°F (40°C) ambient radiator, standard

## Alternator Specifications

Design:	Brushless, 4 pole, drip proof revolving field
Stator:	2/3 pitch
Rotor:	Direct coupled by flexible disc
Insulation System:	Class H per NEMA MG1-1.65
Temperature Rise:	125° C Standby
Exciter Type:	PMG (Permanent Magnet Generator)
Phase Rotation:	A (U), B (V), C (W)
Alternator Cooling:	Direct drive centrifugal blower
AC Waveform Total Harmonic Distortion:	<5% total no load to full linear load <3% for any single harmonic
Telephone Influence Factor(TIF):	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF):	<3

## Voltage Selections

60Hz, 3-Phase, Reconnectable	60Hz, 3-Phase, Non-Reconnectable	50Hz, 3-Phase, Reconnectable
<input type="checkbox"/> 110/190 <input type="checkbox"/> 120/208 <input type="checkbox"/> 139/240 <input type="checkbox"/> 220/380 <input type="checkbox"/> 240/416 <input type="checkbox"/> 277/480	<input type="checkbox"/> 220/380 <input type="checkbox"/> 240/416 <input type="checkbox"/> 277/480 <input type="checkbox"/> 347/600	<input type="checkbox"/> 110/190 <input type="checkbox"/> 120/208 <input type="checkbox"/> 127/220 <input type="checkbox"/> 220/380 <input type="checkbox"/> 230/400 <input type="checkbox"/> 240/415

Note: Some voltages may not be available on all models.

## Generator Set Options

<b>Engine</b> <input type="checkbox"/> 208/240/480v, 4300 watt coolant heaters <input type="checkbox"/> 208/240/480v, 5600 watt coolant heaters <input type="checkbox"/> Fuel/water separator <input type="checkbox"/> Heavy-duty air cleaner w/service indicator	<b>Control Panel</b> <input type="checkbox"/> Control anti-condensation heater <input type="checkbox"/> Exhaust Pyrometer <input type="checkbox"/> Ground fault indication <input type="checkbox"/> Paralleling configuration <input type="checkbox"/> Paralleling upgrade configuration <input type="checkbox"/> Remote fault signal package <input type="checkbox"/> Run relay package	<b>Miscellaneous</b> <input type="checkbox"/> AC entrance box <input type="checkbox"/> Batteries <input type="checkbox"/> Battery Charger <input type="checkbox"/> Export box packaging <input type="checkbox"/> Main line circuit breaker <input type="checkbox"/> PowerCommand Network <input type="checkbox"/> Remote annunciator panel <input type="checkbox"/> Spring isolators <input type="checkbox"/> 2 year prime power warranty* <input type="checkbox"/> 2 year standby warranty <input type="checkbox"/> 5 year basic power warranty <input type="checkbox"/> 10 year major components warranty
<b>Cooling System</b> <input type="checkbox"/> High Ambient 122°F(50°C) radiator <input type="checkbox"/> Heat exchanger cooling <input type="checkbox"/> Remote radiator cooling	<b>Exhaust System</b> <input type="checkbox"/> Critical grade exhaust silencer <input type="checkbox"/> Exhaust packages <input type="checkbox"/> Industrial grade exhaust silencer <input type="checkbox"/> Residential grade exhaust silencer	
<b>Alternator</b> <input type="checkbox"/> 105°C rise alternator <input type="checkbox"/> 80°C rise alternator <input type="checkbox"/> Anti-condensation heater		

\* Available in North America Only